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ABSTRACT

The seven papers in this volume cover varied topics in the field of current linguistics. The first paper, on underlying phonological representations, is written to show that, on the basis of syllabification, vowel quality is a redundant aspect of English phonology and that stress assignment can also be based on syllabification. The second paper presents some observations concerning interracial sociolinguistic language behavior of high school youth. Differences and disagreements between structural and Chomskyian (and post-Chomskyian) linguistics are discussed in another paper. The author of the fourth paper performs a structural semantic analysis on a line from one of Sherwood Anderson's short stories. The analysis is based on Firthian concepts of collocation and context and employs ideas developed by Katz and Fodor, Sydney Lamb, and Uriel Weinreich. The fifth paper presents a discussion of subject-raising verbs and structures that accompany such constructions. One paper considers various aspects of the varieties of English spoken in India. The final paper discusses Whorf's linguistic relativity and criticizes that theory in terms of recent linguistic thought. (VM)

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Foreword

The publication of the following papers was made possible by a grant from Central Michigan University to stimulate the publication of research in language and linguistics resulting from activities of the Michigan Linguistic Society.

Of some nine papers submitted to the October 3, 1970 conference at Central Michigan University, seven are herein included. They represent ongoing research in applied and theoretical linguistics.

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"Concerning Underlying Phonological Representations"

Larry Nessly

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Chomsky and Halle base stress assignment partly upon the presence of underlying tense vowels, double consonants, and morpheme boundaries. As a result, they can claim to approximate the spelling in the underlying representation. This paper will try to show, on the basis of syllabification, that vowel quality is a redundant aspect of English phonology. Furthermore, stress assignment can also be based on syllabification. Thus one finds a very close parallel in English spelling of the underlying representations most suitable for a phonological study.

Even if syllabification is considered redundantly derivable from already stressed underlying representations, it still must be granted that the rules of syllabification need to be specified. This paper will specify some of those rules, showing that stress assignment can proceed without the use of underlying tense vowels, and indeed showing that vowel quality itself is redundant. Two specific instances of generalities regarding vowel quality will be given with related observations concerning foreign vowel quality and anglicization.

As one can see from such words as an-i-mal, can-te-lope, a-strol-o-gy, op-ti-mal, plat-i-tude, mad-ri-gal, and a-rach-nid, syllabification proceeds in two steps. The first step, or initial

syllabification, divides a word-internal consonant cluster so that the largest number of consonants forming an acceptable word initial cluster begins the right hand syllable. Thus, single consonants are originally syllable-initial, and one gets a-ni-mal, can-te-lope, a-stro-lo-gy, op-ti-mal, pla-ti-tude, ma-dri-gal, and a-rach-nid. Such a division is intuitively reasonable, and is found also in Indonesian, as an example. Next, one assigns stress, irrespective of any method, just to establish stress. Now it happens that open stressed syllables, (ones ending in a vowel) become closed by a consonant in the succeeding syllable. That is, open-stressed syllables become closed in English. This results in the final syllabification án-i-mal, cán-te-lope, a-stról-o-gy, óp-timal, plát-i-tude, mád-ri-gal, and a-rách-nid. (Notice that the s in a-stról-o-gy and the r in a-rách-nid do not shift, since the syllable that would be closed is not stressed.)

Now that we have outlined syllabification, it would be convenient to find other aspects of English phonology based on this process. One of these aspects is stress assignment.

Stress assignment is not a phenomenon that I pretend to understand although there are enough principles to motivate a deeper analysis. Briefly, the pattern is that disyllabic words are stressed on the first syllable while adjectives and nouns of three or more syllables omit the final syllable before assigning stress. With the final syllable omitted, stress is assigned to pairs of syllables, with stress falling on the left syllable if the right syllable is open, and on the right syllable

if that syllable is closed. This assignment is quite like that found in Chomsky and Halle. Thus, in the preceding words, we get stress placement of á-ni-mal, cán-te-lope, a-stró-lo-gy, óp-ti-mal, plá-ti-tude, má-dri-gal, and a-rách-nid. With stress assigned, we can then close the appropriate syllables according to the principle already mentioned, that of closing an open-stressed syllable.

So far we have suggested principles of syllabification and then based stress placement on the sequence of syllable configurations, of open and closed syllables. A final step now is to base vowel quality upon syllabification.

A common observation regarding English is that vowels that have undergone vowel shift occur in open syllables, while those that have not undergone the shift occur in closed syllables. The difference between shifted and unshifted vowels (to be called tense and lax) can be seen in the respective tense-lax alternations erbose, verbosity; plane, planular; and vile, vilify.

That vowel quality is related to syllable openness can now be seen in the various pronunciations of what is spelled banal. Thus in bá-nal we see an open stressed vowel being tense, while an unstressed vowel is reduced. In bán-al and ba-nál we find a closed stressed syllable being lax, and again a lack of stress giving vowel reduction. In terms of syllabification, then, if vowel quality is not assigned until after final syllabification (when open stressed syllables are closed), then one finds lax vowels in both án-i-mal and cán-te-lope, and in the other words where they should appear. In addition, one finds tense vowels

in open syllables in such words as flagrant, equal, potato, and silo, as we shall see.

If we begin the derivation with ambiguous underlying vowels (vowels unmarked according to tenseness), then it is possible to predict the surface vowel quality with sufficient initial information, and it becomes especially important to locate those environments where tense vowels regularly occur. The rest of this paper will discuss two areas where surface tense vowels regularly appear, and note some rather interesting by-products of using ambiguous vowels.

One place where tense surface vowels regularly appear is in the penultimate syllable of two- and three-syllable nouns ending in a vowel. That is, one regularly gets tense vowels in the penultimate syllables in such words as halo, zebra, silo, soda, and hobo, as well as potato, arena, tuxedo, volcano, and iota. Words which end in u and y in the spelling behave differently, as illustrated by menu, value, and city, and by avenue, family, and entity.

Another regularity about the words just given is that they are anomalous for English. Thus the normal trisyllable pattern is illustrated by animal rather than by amino, and also illustrated by cantelope, democrat, and aptitude. Lax initial vowels regularly occurring in disyllabic words can be seen in talon, tepid, level, tacit, and polyp, as opposed to halo, zebra, silo, soda, and hobo, where lax initial vowels do not occur. Furthermore, while stress is normally based on syllable configuration in trisyllabic words, as in animal, cantelope, electron, and

arachnid, in the words being considered, stress falls on the penultimate syllable regardless of syllable structure, as in volcáno, mosquíto, magnéto, cantína, iguána, tomáto, and amóeba, instead of expected but inappropriate vólcano, mósquito, mágneto, cántina, íguana, tómato, and ámoeba. Thus these words are exceptions to major regularities in English.

Further, more particular evidence supports the claim that these words are anomalous. Regularly in English, syllables and words do not end with an [ā] sound. This sound in this position has a remarkably high occurrence among the words being considered. Words with final stress regularly have this sound rather than [ē]. In addition, one can make a case that certain [Ī] soundsand [ē] sounds have foreign origin as well.

Normally one would consider a surface [Ī] sound to derive from underlying [e], while a surface [ē] sound derives from underlying [æ]. Instead, I would claim that,for these words, surface [ā] derives from an underlying ambiguous a; surface [i] derives from an underlying ambiguous vowel i; and surface [ē] derives from an underlying ambiguous vowel e. Some evidence follows. In the overwhelming number of cases, when final [ā] occurs, then a preceding [ā] also occurs in an open-stressed syllable in those places where one would expect [e]. Similarly, [Ī] and [ē] occur in open stressed syllables before [ā], however, with a difference. Whereas [ā] is anomalous in tense position, [Ī] and [ē] could be equated with the vowels in feet and late. A major consideration opposes this solution. In the languages from which these words come, the sounds [ā], [Ī], and [ē] are

unshifted, tense vowels corresponding to [ē], [ai], and [Ī]. These sounds are borrowed directly from the host language. As the spelling indicates, these sounds are unshifted, tense values of a, i, and e. Furthermore, when tense [ā] occurs, then the spellings of a, i, and e with values [ā], [i], and [ē] also occur.

A further bit of evidence is to look at the alternations in pronunciation for given forms. Thus one finds [wḗkā] versus [wíkə] for a New Zealand bird. No intermediate form [wḗkə] exists, which clearly shows that [ē] goes with foreign [ā], while [Ī] goes with English [ə]. Similarly, one finds [mēlā́dā] versus [melḗdə] for a kind of crude sugar, without intermediate pronunciations. Thus initial [ē] groups with final [ā], while initial [e] and medial [ē] group with final [ə]. Also one finds [kinkī́nə] versus [kwinkwáinə] for quinine.

In brief, then, I believe these words to be anomalous for the following reasons: (1) The trisyllabic words have penultimate stress regardless of syllable structure, and with tense vowels in that position. (2) The disyllabic words with a single medial consonant have tense rather than lax first vowels. (3) A large number of the words have a clearly anomalous vowel sound [ā], related to one in the source language of the word. (4) Alternations in pronunciation show that other sounds ([ē] and [Ī]) also participate as anomalous sounds, having value similar to that in the host language.

If these words are anomalous, then, how are they to be treated? I would say that these words are originally quite foreign, and that it is only to certain degrees that they have

become anglicized. Thus [wɛ́kā] is still quite foreign, coming from Maori, while [wɪ́kə] is immediately recognizable as more English. While both exist as English pronunciations within English, clearly one is more English than the other. Similarly with [mēlɑ́dā] versus [melɛ́də], and [kinkɪ́nə] versus [kwinkwáinə].

One also finds such variations as [bənɑ́l, bənǽl, bɛ́nəl, and bǽnəl] and [ōmɛ́gə, ōmɪ́gə, ōmégə, ōməgə, ōmegə]. Chomsky and Halle would represent each of these variations separately, with some variations having more underlying consonants than others, and with the resultant implication that these variations are unrelated words. Ross, on the other hand, would recognize banal as ending in a dental consonant and claim that stress shift is optional, as one can see. Ross would be missing the point, however. [bənɑ́l] is a highly French pronunciation, with [bənǽl] a slight improvement in vowel quality. Both correspond reasonably closely to the original French. [bɛ́nəl] is more anglicized in stress and vowel quality, while [bǽnəl] achieves the ultimate anglicization, with the lax first vowel. Thus I would claim that [bənɑ́l, bənǽl, bɛ́nəl, bǽnəl] come from underlying banal, with the form getting competing anglicizations, while [ōmɛ́gə, ōmɪ́gə, ōmégə, ōməgə, ōmegə] all come from underlying omega, given different degrees of anglicization.

Notice that these unnaturalized forms are given ambiguous representations, as [wɛ́kā, wɪ́kə] being represented by weka. Then different degrees of anglicization apply, not necessarily in a completely predictable manner, giving the appropriate surface form. Thus [pətɛ́tō] has underlying form potato, while

[sōnā́tə] has underlying form sonata.

In words like [bənǽnə], [dǽtə], and [lǽvə] one sees the ultimate anglicization, closing an open [ē] syllable (from an open [ā] syllable) to a closed [ǣ] syllable, a sound that must be recognized as peculiarly English. Thus beginning with an underlying lava, one could imagine the following chain of anglicization to [lǽvə]: [lǽ̋-vā́], [lā-vā́], [lā́-vā], [lā́-və], [lḗ-və], and [lǽ̄v-ə]. Such forms as [dǽ̄t-ə], [drǽ̄m-ə], [gǽ̄l-ə], [lǽ̄v-ə], and [plǽ̄z-ə] are usually not used by highly educated speakers, who tend to emphasize their knowledge by affectation.

In brief, let me summarize what has been claimed in this part of the paper. (1) The words regularly have penultimate stress with open tense vowels in that position. (2) Foreign vowel sounds can occur in these words. (3) These foreign sounds can be given the same ambiguous representations as more native sounds. (4) Ambiguous representations are subject to degrees of anglicization, given that they are foreign words.

The final part of this paper will consider how one should go about analyzing the effect of certain morphemes in English. Normally, the pattern for disyllable words with a single medial consonant is to have a closed initial syllable (with a lax vowel) as in talon, tepid, level, tacit, and polyp. On the other hand, disyllabic words ending in -al, -ant, -ent, and -ous have tense vowels in that position,as illustrated by equal, fatal, rival, famous, hydrous, blatant, flagrant, migrant, cogent, latent, and strident. The point is to try to explain this difference in vowel quality.

Consider the effect of adding these suffixes to disyllabic roots, such as polyp, covet,hesit (see hesitate), music, digit, toxic, milit (see militate, military), and habit. One notices that when the suffixes -al, -ant, -ent, and -ous are added, the stress does not shift. Rather, what happens is that the final consonant of the root just moves across the morpheme boundary to close the final syllable, as shown in pol-y-pous, cov-e-tous, hes-i-tant, mu-si-cal, dig-i-tal, tok-si-cant, mil-i-tant, and hab-i-tant.

A similar process occurs in the disyllabic words. In a word like vacant, the root comes from Latin vacare, giving the root vac. Starting with the root, one applies stress, giving vác. Now, without changing stress, one adds the suffix -ant, and closes the final suffix with the preceding consonant. Thus one gets vá-cant. Since the vowel now occurs in an open syllable that is stressed, the vowel is assigned tense quality, and thus one gets [vḗkənt].

Parallel analyses give the appropriate result for the other words as well. Thus silent has root sil from Latin silere, while regal comes from a Latin (and even Indo-European) root reg, and famous comes from Latin fama with root fam.

Even more remarkable is that -ant and -ent words coming from Latin -are and -ere forms regularly have tense vowels, while those coming from different sources have lax vowels. Thus vacant from vacare has a tense vowel, while pleasant from plaisir has a lax vowel. Again, silent from silere has a tense vowel, while patent, with influence from old French, has a lax vowel.

Summarizing, certain vowel-initial suffixes attract preceding consonants without changing stress. In three-syllable words the effect is not great, while in two-syllable words with a single medial consonant, tense vowels regularly appear.

Given syllabification and originally ambiguous vowels, it becomes possible to suggest an explanation for these facts, and indeed it becomes necessary to find the environments for disambiguating the vowels. With ambiguous vowels, a great deal of attention is given to generalities in vowel quality, with the result that new patterns are discovered.

Indeed, it is difficult to see how Chomsky and Halle could describe the generalities given here for the words ending in a vowel and for the words ending in the suffixes. Since Chomsky and Halle rely on underlying tense vowels for stress assignment, they would have a difficult time appending the appropriate generality to their theory in order to account for stress and vowel quality in an ordinary word like potato. Even if they could add this generality, they would have trouble with other problems.

One, they would not be motivated to find other new generalities, which one would be motivated to do if he began with ambiguous vowels. Two, they would have to ignore syllabification, lest the appropriate redundancies become too evident. Three, they would still have difficulty generating forms with multiple pronunciations, as in banal and omega. Four, they would still be losing sight of the process and role of anglicization.

In brief, then, use of syllabification permits changes in underlying representations which lead to new generalities. These

representations allow a more intuitively acceptable treatment of English phonology while at the same time attacking the data with greater vigor promise.

"Some Observations and Comments
on Interracial Sociolinguistic Language Behavior
of High School Youth"

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In increasing numbers high school youth are participants in moderate to intense forms of violent social conflict. As a result, the climate of learning has been one of destructive tensions rather than constructive educational processes. The cause of these conflicts frequently can be traced to factors within the setting of the bi-racial school. One major element in this complex tension build up in schools is the language patterns of speech and their various meanings to the respective peer groups. These patterns seem to create barriers between these groups and often between the entire student body and the officialdom of administrators and teachers.

Recent disturbances in River Rouge, Michigan, and observations from my perspective as a teacher have illustrated that in fact a communication barrier does exist. The trial that came out of the River Rouge disturbances of January 1970 specifically was focused on this barrier. While Michigan Law does not allow conviction based on evidence of fighting words, such words do provoke attacks on the insulting party. This is especially true if one of the persons happens to be black and the other white. The author, in consultation with the defense attorney, was prompted to test this notion that word connotations

are different for each racial youth peer group. While the sample was small for the brief survey run, it included proportionate numbers of both black and white youth representing the various status levels of the respective communities. There were twenty-five white eleventh and twelfth grade students and twenty-three black eleventh and twelfth grade students.[1] As the racial disturbance in River Rouge High School was supposedly the result of "fighting words", several of these as well as some words from the current teen-age argot were included in the survey questionnaire. Each group of students was asked to respond to these words when said in two different situations. The first situation was described as follows:

> Now suppose a person of your own age and the same race as you--a white person speaking to a white person or a black person speaking to a black person--How would you feel (about each one of these words when they were said to you)?

Situation two asked for the students' reaction to the same words in an interracial setting:

> Now suppose a person of your own age but a different race from yours--a white person speaking to a black person or a black person speaking to a white person--uses one of these words, how would you feel?

Though there were twelve words on the survey form, only ten seemed to elicit either strong positive or strong negative reactions. As these words are almost equally divided between "fighting words" and complementary words, they offer an excellent base for this analysis and tentative proof of the major hypotheses. These words are:

Bold
Together

Cool
Bright
A Punk
A Son of a Bitch
An Ass
A Bastard
A Pig
A Freak
A Pimp
A Motherfucker

The students were given four defined categories and one which allowed them to state in their own words either more precise or stronger feelings. The categories--feel good, don't care, feel bad, feel angry, and something else--were pointedly weighted toward the negative and fighting feelings as this was the emphasis of the survey and we wanted to define the degrees of negative emotions that were attached to these fighting words if at all possible. In a third part of the questionnaire, a question--Would any of these words we have listed make you angry enough to fight another person if he said them to you in a group at school?--was asked. The answers ranged from very negative reactions to remarks indicating that several students would keep peace at all costs. These will be quoted later on.

The data from the survey was collated into six tables. Tables I and II are a simple count of the responses under the various categories of feelings for each word. It is interesting to note that the "something else" category unanimously means "fight" to both black and white respondents when they indicated that the other four did not express their reactions adequately. Tables III and IV are analyses of the simple count of the different responses. The categories were weighted numerically as follows:

Feel Good	+1
Don't Care	0
Feel Bad	-1
Feel Angry	-2

The rationale for such weighting is that being angry is clearly different from feeling bad. This discrepancy was especially revealed in the students' comments. Therefore, by treating good and bad as equal opposites and adding another degree of negative feeling to angry, we were able to determine a finer degree of the emotional response to these "fighting words". The differential in Tables III and IV numerically describes the shift or change in the respondents' attitude towards the implication of the meaning of each word when spoken in a bi-racial setting as opposed to an intra-racial setting. As Table III is the analysis of the black students responses--and Table IV is the analysis of the white students responses, the differentials, when compared, reveal that there is a definite reversal in feelings among the black students when a white student utters these words than when a fellow black student does. That it works, also, but not to the same extent, in a positive way with the complementary words is encouraging. What the statistics reveal is that white students express a wider negative differential with the words bright and together, no differential at all with such words as motherfucker and bastard, and a small positive differential with the word freak. This would be appropriate, it seems, in that bright and together coming from a black student to a white student, while complimentary, would perhaps seem to be an Uncle Tom attitude to win a place in the dominate white peer culture, at the most, or a sarcastic insult of the white student's ability to be able

to "make it" easier than the black, at the least. The fact that some highly loaded negative words, while eliciting some very negative responses, do not mean anything special in different racial setting for the white student seems to reveal that on one level, at least, the white student expresses no racial prejudice. The word freak is interesting. Though the differential is small, only a plus two, it is enough to make us wonder if the interpretation of the word by the white youth when said by a black youth is that, "you are right, I am a freak to you as you are black and I am white." That this interpretation might hold is further supported by the fact that in Table III analyzing the black student responses, freak has the positive differential of plus three. The black student, therefore, seems to see the white youth's definition of freak reversed. It should not be assumed, however, that this positive differential means that this word is not a fighting word. Five black students said that they would fight over being called this--four in a black-white situation and one in an intra-racial situation. The words that carry the least differential for the black students are cool and bright with ass having no differential at all. This seems to indicate that the black students consider these words universal and unprejudiced terms. Rightly so, if one could hypothesize that the use of these words by whites to blacks makes for recognition by the dominate culture that the blacks, as either a group or an individual, are meeting some sort of "civilized" standard in the eyes of that dominate culture. That the black students show the greatest differential on punk (-17) and motherfucker (-11) supports the point

that fighting words are definitely loaded in the bi-racial situation. Punk for the white students shows a differential of -4 in the bi-racial setting. It is a -17 for black youth. Laying knowledge of the historical background of the Negro race in America one could easily understand why this would be. The negative overtones of the word--young, inexperienced, and associated with criminal behavior--would naturally put a person who has always been on the defensive in an even more guarding position to prove that he is not a punk. Fighting may not be the appropriate way to show his displeasure of the term, however, the righteous anger expressed in the comments of the black students--"It makes me mad," "It's a put down"--underscores the intensity of the insult.

That these sociolinguistic interpretations of reactions to such words might be valid is only hinted at in this survey. More interviewing and intensive research need by done before any of these intuitive hypotheses can become proven or disproven as statements of fact.

Tables V and VI further define the differential of Tables III and IV. These tables indicate the percentage of times the interpretations of words changed across race lines, that is the percentage of times there was one or more shifts among the four categories when there was change in the racial context as defined by the situation described in the questionnaire. Table V, the percentage of shift in the black student responses, points out that the list of words as a whole has almost double the number (67 versus 36) of negative shifts than Table VI, the percentage of shifts in the white student responses. With the black students,

47.9% shifted their meaning of punk in the bi-racial setting, while only 8.7% shifted to a negative position with the word bold. These percentages are in agreement with the differentials of Table III. Freak, however, which had a plus 3 differential, had actually a 26.1% negative shift and a 4.35% positive shift (for black youth) in the bi-racial setting. These percentages give further support of its fighting quality. Table VI, the percentage of times interpretation shifted in the minds of the white students, is not supportive of the differentials of Table IV. The white students express a much smaller percentage of shifts to the negative in the bi-racial situation than their black peers. This is counterbalanced, however, by a fairly large percentage of positive shifts relative to the percentage of positive shifts in Table V by the black students. For instance, ass which for the white students has the greatest percentage of negative shifts--24%--also has a 16% positive shift. This compares to a 21.75% negative shift and a 17.40% positive shift for the black youth. For the black students, however, this word creates less than half the amount of negative shifting when we remember that punk had 47.85% negative shift. These percentages tell an intriguing sociolinguistic tale. Punk, by definition, puts the insultee in a derogatory social class. Black students, having the long history of being second class citizens, would naturally be particularly sensitive to any terminology like punk which infers a class status repulsive to the dominate peer culture. Black youth could then be predicted to feel "super angry" when someone in a secure class position degrades their insecure class status. White students

in America, if only by virtue of their Caucasian ancestry, have a relatively secure class status. They would not, therefore, be as offended as their black peers by this fighting word. Ass, however, is an assassination of an individual's character. The white student, though confident of his class status, may easily feel insecure about his personal identity. If a black teen-ager were to insult him in this way, he could be expected to over-react, as he would consider the speaker to be in no position to attack his fragile self-identity. Freak still has some interesting figures attached to it. It has a 4% negative shift, but also a 8% positive shift which again reinforces the interpretation previously given to the word--that is, that to the white student, the black student is a freak because he is not white, and to the black student, the white student is a freak because he is not black.

What proved most interesting, perhaps more from semantic and sociological points of view than the linguistic perspective, was the comments asked for under part three of the survey instrument. The reasons the black students gave as to why they would fight if called certain words offers much insight into the students' sense of the essence of these words and the people who speak them.

> My mother is not a dog.
>
> I feel that this certain person doesn't have any business talking or insulting me if that person doesn't know me.
>
> If they know my name and can't call me by my name and call me something like that instead I know I will be ready to fight and it has happened before.
>
> If someone calls me a bitch they are calling my mother one and they have no right to judge someone they don't know.

The white students, while showing less degree of negative feelings in the numerical analysis of their responses, give more definite indications of their feelings about the words that would cause them to fight than their black counterparts.

> I don't feel that cuss words are proper and bring out the hate in one's feelings.
>
> I don't take nothin' off any spook, it really gets bad when they start insulting my mother.
>
> The person (calling me such names) has no respect for anyone else.

Eight of the twenty-five white students remarked they would choose not to fight, and eleven of the black students would prefer not to fight or would maintain peace at all costs. Their remarks indicate some rather sound insight into what is worthwhile in their young lives.

> I don't think words are enough to make me fight, I don't dig fighting anyway.
>
> (These) words are just showing your ignorance.
>
> Most people only fight to draw attention.
>
> Well, I don't like to fight to start with, but if I am forced to fight I will. But as far as it comes to calling people names, that doesn't help either. I mean calling people names is just showing how you are raced [sic] at home.

Perhaps much more could be done through analyzing and changing the home environment, but the survey does indicate that a study of the sociology of language in the high school setting has pertinent value in creating an atmosphere of understanding between the students and adult leaders.

I see three major hypotheses at which this survey hints. More extensive study should test to see what impact the socio-

linguistic dimensions of these hypotheses play in racial conflict in the secondary schools. They are:

a. Interpretations of word meaning by members of one racial community are often partially modified or completely changed by another racial community.

b. Where a clear experience of separate language socialization characterizes each racial community, conflict is likely to be derived from, if not exacerbated by, language differentiation.

c. Lack of recognition of different word meanings in various racial groups by controlling groups strengthens the inter-racial communications barrier as well as the communication barrier between the total black and white community and the controlling groups.

The first hypothesis has had a rather conclusive pretest in this small survey. It needs more careful investigation, however, along the lines formulated by David R. Heise in his article "Social Status, Attitudes, and Word Connotations," (Sociological Inquiry, Vol. 36, 1966: 227-239) where he argues that referent attitudes[2] towards words are derived from and associated with experience and that that "attitude continues as long as the pattern of experience producing it is unaltered."[3] He then introduces the idea that these personal referent attitudes are shared with prevailing general social attitudes in our highly complex society. When such attitudes do not agree, the balance theory can be brought into play. That is, if social referent attitude and personal referent attitude do not agree, tension and dissonance results, with the individual trying to escape that tension. The outlets available in this society are "avoidance and rejection, communication or instrumental action, restructuring, attitude change, or psychological defense mechanisms (repression, projection, regression, etc.)"[4] What then may happen is that the conflict may be reduced

between language and personal attitudes by restructuring the language itself through the use of synonyms and sublanguages and the vicious circle begins again.

Walt Wofram is one researcher who has begun to break this vicious circle with substantial research supporting the relatively new concept that Black English[5] is a dialect, yes, but also a language with its own rules of grammar and pronunciation separate from that used by speakers of standard American English. The acceptance of this point, at least among sociolinguistics, may eventually affect the IQ testing and interviewing of black students. Labov in his study of black children in the ghettoes of New York has proven that future research must take this into account. His recent study recorded in The Florida Reporter entitled "The Logic of Non-Standard English" gives an excellent analysis of how verbal and verbose as well as grammatically correct ghetto black children are given the right setting in which to communicate.[5] Even if the interviewer is black but from the middle class which the child may recognize through his speech patterns, the child is automatically on the defensive as our black high school students were and is very non-verbal to the point of lying to preserve some semblance of being a person in his own right. Using some aspects of these tested theories in a more extended study of the peer groups in a multi-racial high school may bring into clearer focus the degree to which interpretations of word meaning are used to determine self-image and group identity, as well as the capability to ignore the personal racial overtones of words to comprehend, if not accept, other

racial or ethnic interpretations. This latter idea is raised in a very early study (1961) by Ernest Barth in his article "Language Behavior of Negroes and Whites" (Pacific Sociological Review, Vol. 4, 1961: 66-72.) His groups were from the same middle class status level but he noticed that to blacks words seemed to have "a more personalized meaning, used in evaluative, emotive fashion, and the words used tended to be less abstract terms than their white counterparts used. This, too, would have to be considered when either drawing up an instrument or analyzing data of a more advanced study. Some of this has already been done in our little survey and the implications are great. For one, how does a black student react to the great number of abstract words used in his studies, let alone the ones used in conversation by his white peers? And reversely, how easily can a white student accept, understand, and contend with the emotionally charged use of words by his black colleague? And perhaps of greater importance do these differences still hold water, or has the political atmosphere of the last five years changed the teen-agers feeling of both types of words? Our survey indicates that this is not so with loaded fighting words, but that is a small part of the total teenage argot used today.

The second hypothesis dealing with separate language socialization being one reason for conflict is an extension of the first. Labov's work is again an excellent indicator of what can be done to bring to light the sensitivity of the black student especially about verbal behavior and its influence in creating conflicts of all degrees between racial groups. His pointing

out of the defensive that black children are on when it comes to verbalizing their feelings and ideas makes it very clear why the atmosphere of our multi-racial high schools is so charged with tensions. How separate language socialization creates barriers to communication is also briefly touched upon in Wolfram's work in Black English. He notices that "in terms of some of the ritualistic uses of language in the black community, it is...observed that it is teenagers(particularly males) who are mainly responsible for carrying on the tradition of ritualistic language. Language rituals such as "sounding" (the ritualistic game in which the mother is insulted), "signifying" (the ritualistic game of insulting another person directly), and "rapping" (a fluent and lively way of talking characterized by a high degree of personal style) show definite patterns of age-grading."[6] May these patterns not also reveal a definite pattern of racial language identification? As each of these patterns demand a personal, emotive involvement, it is clear why black youths are very sensitive to verbal speech constructions and diction. One question, does this hold true for white youth?

The third hypothesis is strictly intuitive. Any interaction on the basis of verbal communication between school officials and the student body can be considered in the same way as we have dealt with the communication problem between racial peer groups. It, therefore, becomes an ad hoc thesis to the first two. It seems, however this is ultimately the most important area where meaningful communication must be established. Perhaps this sounds a bit like history with all the high school and college

students insisting on having a voice in curriculum and forming the administrative policies of the schools. The question asked, though, is about communication and understanding meanings of words when used by very different racial and cultural groups, not about power-play. They are linked, yes, but is there communication here or is there simply a stronger tightening of the separate language socializations by each group as well as by the controlling group? Ultimately, it is to this question that I wish to address further study. We have come a long way from the court case and twelve words from the present teenage argot. That such a journey is possible from the brief observations of some sociolinguistic patterns and reactions illuminates a path of research which needs to be undertaken. What work has been done is good but it is not enough to provide the people who work in and with the schools adequate materials which would serve to create an atmosphere of constructive learning and thus help end the conflicts besetting our schools before they start.

Table 1

A NUMERICAL COUNT OF BLACK STUDENT RESPONSES
IN EACH CATEGORY AND SITUATION

Total of 23 students in survey

Word	Feel Good		Don't Care		Feel Bad		Feel Angry		Or Something Else*	
	S1**	S2***	S1	S2	S1	S2	S1	S2	S1	S2
Bold	1	1	17	16	4	2	1	4		
A Punk	0	0	8	3	8	1	5	17	1	1
Together	15	11	5	11	0	0	0	1		
A Son of a Bitch	0	0	2	2	4	1	12	14	5	5
A Pimp	0	0	13	12	3	2	5	6		
A Motherfucker	1	0	4	2	5	1	7	14	5	6
Cool	15	12	6	10	0	0	1	0		
An Ass	0	0	8	8	5	3	9	10	1	2
A Bastard	1	0	4	3	5	1	11	14	1	5
Bright	14	13	9	10	0	0	0	0		
A Pig	0	0	10	8	5	2	7	10	1	3
A Freak	0	0	5	6	6	1	11	12	1	4

*Or something else unanimously meant FIGHT to the respondents who wrote in their feelings under this heading.

**S1 means situation one where one person is speaking to another of his own age and race.

***S2 means situation two where one person is speaking to another his own age but of a different race.

Table 2.

A NUMERICAL COUNT OF WHITE STUDENT RESPONSES
TO EACH CATEGORY AND SITUATION

Total of 25 in survey

Word	Feel Good		Don't Care		Feel Bad		Feel Angry		Or Something Else	
	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2
Bold	12	11	10	10	1	2	0	0	1	0
A Punk	1	0	12	10	1	2	10	11	1	1
Together	20	18	4	5	0	1	0	1	1	2
A Son of a Bitch	0	0	4	5	2	1	18	18	0	1
A Pimp	0	2	9	6	3	3	13	14		
A Motherfucker	0	0	4	3	2	2	18	18	1	2
Cool	19	18	5	6	0	0	0	0	0	1
An Ass	0	0	10	11	7	2	8	12	0	0
A Bastard	0	0	6	5	3	3	16	16	0	1
Bright	14	11	7	12	1	0	1	1	1	0
A Pig	0	0	9	8	4	4	11	13	1	0
A Freak	0	1	16	14	2	1	7	7	0	0

Table 3

ANALYSIS OF THE NUMERICAL COUNT OF BLACK STUDENT RESPONSES IN INTERRACIAL AND INTRA-RACIAL LANGUAGE CONTEXT

EXPLANATION OF PROCEDURE: Each of the four categories were weighted numerically as follows:

Feel Good	+1
Don't Care	0
Feel Bad	-1
Feel Angry	-2

The rationale for such weighting is that angry is clearly different from bad and that good and bad are equal opposites.

Word	Situation 1 (interracial)	Situation 2 (intra-racial)	Differential*
A Punk	-18	-35	-17
Motherfucker	-18	-29	-11
Together	+15	+9	-6
Bold	-5	-9	-4
A Bastard	-26	-29	-3
A Pig	-19	-22	-3
A Son of a Bitch	-28	-29	-1
A Pimp	-13	-14	-1
Cool	+13	+12	-1
Bright	+14	+13	-1
An Ass	-23	-23	0
A Freak	-28	-25	+3

*The differential indicates the negative or positive shift between situation one (intra-racial) and situation two (interracial) for the purpose of discovering which types of words create the least change in attitude and which create the most change in attitude.

Table 4

ANALYSIS OF WHITE STUDENT RESPONSES

Word	Situation 1 (interracial)	Situation 2 (intra-racial)	Differential*
Bright	+28	+20	-8
Together	+20	+13	-7
A Punk	-20	-24	-4
A Pig	-26	-30	-4
An Ass	-23	-26	-3
Cool	+38	+36	-2
Bold	+24	+22	-2
A Pimp	-29	-29	0
A Motherfucker	-38	-38	0
A Bastard	-35	-35	0
A Son of a Bitch	-38	-37	+1
A Freak	-16	-14	+2

*See explanation after Table 3.

Table 5

PERCENTAGE OF TIMES INTERPRETATION OF WORDS SHIFTED ACROSS RACE LINES FOR BLACK STUDENTS

Word	Number of Positive Shifts	Number of Negative Shifts	No Shift
A Punk	4.35% (1)	47.85% (11)	47.85% (11)
A Pig	8.70% (2)	34.80% (8)	56.55% (13)
A Motherfucker	0% (0)	39.15% (9)	60.90% (14)
An Ass	17.40% (4)	21.75% (5)	60.90% (14)
A Bastard	0% (0)	34.80% (8)	65.25% (15)
Together	4.35% (1)	26.10% (6)	69.60% (16)
A Freak	4.35% (1)	26.10% (6)	69.60% (16)
A Pimp	13.05% (3)	13.05% (3)	73.95% (17)
Cool	4.35% (1)	17.40% (4)	78.30% (18)
A Son of a Bitch	0% (0)	13.05% (3)	87.25% (20)
Bright	4.35% (1)	8.70% (2)	87.25% (20)
Bold	0% (0)	8.70% (2)	91.60% (21)

Table 6

PERCENTAGE OF TIMES INTERPRETATION OF WORDS SHIFTED ACROSS RACE LINES FOR WHITE STUDENTS

Word	Number of Positive Shifts	Number of Negative Shifts	No Shift
An Ass	16% (4)	24% (6)	60% (15)
A Pimp	16% (4)	20% (5)	64% (16)
A Bastard	12% (3)	16% (4)	72% (18)
Bright	4% (1)	16% (4)	80% (20)
A Punk	4% (1)	16% (4)	80% (20)
Bold	8% (2)	12% (3)	80% (20)
Together	0% (0)	16% (4)	84% (21)
A Pig	8% (2)	8% (2)	84% (21)
A Freak	8% (2)	4% (1)	88% (22)
A Son of a Bitch	4% (1)	4% (1)	92% (23)
A Motherfucker	4% (1)	4% (1)	92% (23)
Cool	4% (1)	4% (1)	92% (23)

FOOTNOTES

1. The students were from Redford and Northwestern High Schools in Detroit, Michigan. The survey was taken in level three high school English classes.

2. Heise defines referent attitudes as "associations (that) are derived from experience."

3. David R. Heise, "Social Status, Attitudes, and Word Connotations," (Sociological Inquiry, Vol. 36, No. 2, Spring 1961) 227.

4. Ibid., 229.

5. Walt Wolfram, Some Illustrative Features of Black English (Paper given at Center for Applied Linguistics Workshop on Language Differences, Coral Gables, Florida, February, 1970.) On page one Wolfram notes that he will use the term Black English to denote the non-standard dialect as spoken by most blacks. "That there is no established term used to denote this dialect is a reflection of the fact that the legitimacy of the dialect has only been recognized in the last several years."

6. Ibid., 8.

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"From Paradigm to Practice in Linguistics"

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As we move ahead--and at times slip back--in linguistic studies, what ought to gain in respect is that whatever analyses uncover or suggest about the nature of language, these analyses cannot replace their source in significance or honor. The richer the theory, the more complex and mysterious the phenomena of language appears to be. To this extent science is not king; the grammar book--traditional, structural, tagmemic, transformational, neotransformational, stratificational--is not the 'sourcebook' of grammar, but only a second hand account of that source. Both Miss Fidditch and Mr. Modern Grammarian have a conscious knowledge of grammatical rules that lend insight, accompanied by varying degrees of distortion and incompleteness, into the rather extensive preanalytical grammar that small children 'understand' and use skillfully, integrating sound, syntax, and semantics in ways that still pit the best theorists against each other for explanation. This is not to deny the achievements of linguists, for such achievements have significantly contributed to these observations.

As we push into the 1970's, we do well to reflect on the conceptual framework out of which our study of language has emerged. This is especially relevant since the problems, methods, and aims of what has been called modern linguistics (Chomsky

still calls it that) are rapidly being replaced by the concerns of another conceptual framework or paradigm (to use a word that has various shades of meaning in Thomas Kuhn's "The Structure of Scientific Revolutions"[1]).

Says Susan Langer of a philosophy (cf. philosophy of science):

> It is characterized more by the formulations of its problems than by its solution of them. Its answers establish an edifice of facts; but its questions make the frame in which its picture of facts is plotted. They make more than the frame; they give the angle of perspective, the palette, the style in which the picture is drawn--everything except the subject. In our questions lie our principles of analysis, and our answers may express whatever those principles are able to yield.[2]

For reasons that should become increasingly evident, it is important to be reminded of our recent history in linguistics and the effects in practice of the still struggling paradigm.

Structural linguistics was to be 'scientific', with all the claims to precision and objectivity that are so often associated with that word. For example, no longer would we study language through notional definitions inconsistently mixed with functional criteria for establishing parts of speech. No longer would we attempt to use Latin grammar as a model for English grammar or pretend that there was any real significance to a universal grammar. Languages differed and must be considered on their own merit. The way of science was the way of inductive generalizations from observables. We would, in other words, stick to the facts as we saw them--or better, as they revealed themselves to us. Some would note the correlation of differing linguistic structures to differing cultural patterns

and develop a theory of linguistic relativity. Attention to the observable surface features of language would culminate in theory that was as accurate and objective a summary of that data as possible. Language could be defined as a system of vocal signals or simply as speech, writing being an incomplete representation of speech. Moreover, languages were arbitrary--not so much revealing logic, but reflective of changing customs, times, and places. Defining the phoneme would involve primarily articulatory and accoustical conditions; the closer we could stay to what was retrievable from the sound stimulus, the more precise and objective would be our account. For Bloomfield the definition of the phoneme would hopefully come out of the laboratory.

In the structural tradition, scientific methodology demanded only the "study of phenomena and their correlations"[3] (Twaddell). Mentalistic assumptions were fraudulent. Linguistic description should be characterized only by consistency, convertibility, and, perhaps, simplicity and convenience.[4] The subjective definitions of grammatical units were to be replaced by those which recognized the observable signals in grammatical structure. For many (most?) mixing linguistic levels was taboo, and for certain purists in the tradition the ultimate in objectivity would be a grammar whose structures are kept apart by means of audible differences in the sound stimulus--in stress, pitch, and juncture. Such a grammar appeared in 1958 (Archibald Hill).

All this would be accomplished in the name of science, or to use Kuhn's expression designating the going body of scientific

assumptions implicit at a given time--'normal science'. Of course, there were exceptions to the trend. Certain important assumptions of Sapir became and remained unpopular. As far back as the 1940's Pike was holding out for grammatical prerequisites to phonemic analysis. And Jakobson's feature analysis, with its implications for the universal, was later to be used by the revolutionists. But the main lines identifying theory construction in this country are quite discernible, and they are also reflected in the kinds of questions taken into the laboratory.

Laboratory questions would fit the theoretical formulations suggested above. Typical were experiments calling for response to differences in plus juncture involving grammatical boundaries. Some tests inquired into what part pitch and stress play in identifying and contrasting syntactic structures. Attention to the role of sound features establishing phonemes extended from features characteristic of phones and allophones to conditioning factors related to the immediate sound environment. Amid exaggerated claims, positive contributions to an understanding of sound phenomena resulted from these investigations. However, we here wish to note the limitations imposed on experimentation by the paradigm concerns of a rather strict empirical science. For example, rarely would one find, among the mass of recorded experiments on sounds, an experiment testing for the effects of broader contexts upon the sound. Outside the country, some research by Bruce[5] in England and Mol[6] in Holland proved exceptions. The same restrictions on experimentation did not apply in these cases. American psychologist George Miller experimented

with sequential constraints in perception and recall of strings of words, but later realized that even this assumed too narrow a context for determining psycholinguistic primes.[7]

It is again important to emphasize that the answers derivable from an experiment are restricted to the questions one is willing to ask, so that even negative answers are negative in respect to these questions. The structuralist's questions were reflective of his paradigm, which, in turn, circumscribed the significance of the answers forthcoming from the laboratory. Thus, though one could test for the relative importance of certain sound features or contrasts over others, he could not, within this paradigm, test for the effects of higher level (syntactic and semantic) constraints on phoneme identity. Doing so might jeopardize the concept of the phoneme that tests were meant to validate. To this extent the structuralist was hindered from determining the role sound played, while his autonomous phoneme exaggerately attempted to do just that. To ask the larger, contextual question could not only challenge conventional concepts of the phoneme, but also the paradigm base from which it developed. Kuhn puts the matter in historical perspective when he states:

> No part of the aim of normal science is to call forth new sorts of phenomena; indeed, those that will not fit the box are often not seen at all. Nor do scientists normally aim to invent new theories, and they are often intolerant of those invented by others. Instead normal scientific research is directed to the articulation of those phenomena and theories that the paradigm already supplies.[8]

Grammar texts espousing structural linguistics concentrated on surface features involving word order, structure words,

inflections, intonation, etc. The distribution of an item in various contexts was sometimes called on in order to 'objectively' identify its syntactic role, although some recognized the 'subjective' circularity of this procedure.

Introductory textbooks in linguistics, in keeping with the heavily attended-to area of sound phenomena largely emanating from the directive in science influencing this attention, introduced the student to phonology first, and then extended this introduction over a disproportionate part of the book. It is hardly necessary to say how the grammar was accounted for, although the same degree of emphasis was not accorded the varying surface features from one text to another. Positively speaking, benefits which accrued from these attempts include the examination of language features that had been largely neglected, scarcely explored, or unsystematically described; but the limitations governing what was to be studied and how--what was methodologically respectable--are quite in evidence. What was 'fact', moreover, was to no small degree informed by the principles that developed from the then normal science of linguistics in America.

In teaching English to non-native speakers--or teaching any foreign language--we were to emphasize the differences between languages as these suggested interference problems in the areas of sound, syntax, and vocabulary. And in the matter of teaching-technique the positivistically oriented linguist found the similarly inclined behavioral psychologist to be a good bedfellow. Stimulus, response, reinforcement, generalization,

and habit formation were the stock in trade of the behaviorist; to the linguist these had the advantage of dealing with the observable--overt 'causes' and overt 'effects'--expressing essentially the same conceptual framework in science that the linguist was accustomed to. Language behavior, like other kinds of behavior in animals and men, was 'habit forming.' Pattern practice would help establish new habits in the acquisition of the foreign language.

The structuralist's contribution to the subject of Reading reflects his phonological emphasis. Spelling patterns highlighted phoneme/grapheme correlations, as did such attempts as the International Teaching Alphabet. The prevailing notion of language composed of building blocks from sound to sense is reflected in assumptions about the reading process. Thus it appeared important to those using a spelling pattern approach that beginning readers first perceive the grapheme in the syllable pattern of the word, and having so identified it to determine the phoneme which it represents before going up the ladder to levels of syntax and semantics. At least, 'reading for meaning' was considered misguided until and unless the alphabetic (phonemic) principle had been conquered. The effectiveness of materials employing these principles may now be established as this applies to certain situations, but their overall effectiveness or necessity is largely a function of the degree of insight involved in the theoretical claims that underlie them.

Enter Noam Chomsky and the revolution. The unresolved anomalies and the felt inadequacies of the 'limited' appeal in

science to account for many phenomena or to support much of the aforementioned theory laid the groundwork for change. A positive approach (the transformational-generative model) to the solution of several of these problems favored the upcoming revisionists. The ongoing revolution in linguistics, with its 'new' (renewed) stance in science, is the result. Although something of the method, certain of the findings, and much of the rigor of the structuralists have been taken over by the revolutionists, the degree of change is phenomenal. The extent to which Chomsky's position in rationalism and the modern linguist's position in empiricism are compatible is controversial, but the changes in theoretical direction and in practical consequences are revolutionary. It is important at this point briefly to sketch the shift in emphasis, and then to see how this has affected applications.

The innate is now receiving much attention, as are universal features that identify all languages and contribute to the uniqueness of man as the language possessor among creatures. Accompanying an admission of much ignorance as to language acquisition, exposure to language (stimuli and reinforcement) is viewed as a condition necessary to draw out (trigger) rules and relationships that have a genetic origin.

The linguistic explanation of sentences currently involves underlying and surface structure. (In the latest revision, the deepest structure is conceptual entailing unordered roles of a semantic nature.) The notion of grammaticality, which appeals to the intuition to judge the well-formedness of sentences, made

its entrance amid continued accusations of mentalism.

The claim has also been made that a developing science must go beyond observational adequacy and even descriptive adequacy to explanatory adequacy, though for some these concepts are not easily separable, and the structuralist within his perspective may have often thought himself to have travelled the route all the way to explanation. Moreover, it has become abundantly clear that what is "added" by the new paradigm is no mere accretion, but a reevaluation and reordering of the data.

Receiving increasing emphasis is the creative aspect of language use which is said to allow even the pre-school child to understand and produce one novel sentence after another, apparently defying explanation in behavioristic terms. These 'facts' also reflect the essential difference between animal message systems and language. Behavioral concepts such as analogy and generalization are regarded as empty of content (i.e. scientifically vacuous according to their usual definitions). And reflecting on complex systems such as the mind of man, with its innate 'knowledge' of language, Chomsky finds evolutionary explanations equally vacuous.[9]

Since languages share universal features, roles, rules, and relationships, they together reflect language. Languages, then, are essentially the same, however much they may differ or appear to differ. All demonstrate a kind of language-logic. Therefore, the concept of linguistic relativity, especially in its strong form, is seen to be a gross exaggeration that underplays both the commonality of all languages and man's consequent

rule-governed freedom through language to transcend customs and conventions.

Automonous phonemics has been replaced by systematic phonemics (morphophonemics), since the former is a product of forced conclusions from the data, motivated by circumscribed attention to sound features and sound environments, which motivation is attributed to the narrow concerns of a limited view of science. Postal puts the matter in sharp focus when he writes:

> Theoretical positions are defined largely by the questions they ask. The great limitations of autonomous phonemics are due to asking the wrong ones. The fundamental question which autonomous phonemics has asked is, essentially, how may a description systematically distinguish those phonetic features which differentiate contrasting forms from those which do not. Metaphorically 'how are utterances kept apart by sound?' This question turns out to be wrong because it involves many implicit assumptions which turn out to be false, assumptions which exclude complete overlapping, which entail the nonlogical truth that phonetic contrasts directly yield phonological contrasts, and which insist that phonological structure is independent of grammar and completely based on phonetic considerations.

On the previous page, the same author cites the structuralist's "attempt to view sound change as a physical, phonetic phenomenon having to do with the performance process of articulation" as largely an error "motivated by underlying physicalist, positivist, behaviorist, and antimentalist tendencies" obscuring "the rule character of sound change."[10]

The "rule character" of language applies to competence which is to be distinguished from performance, though the former plays a major role in the realization of the latter. This is a significant departure from the 'older' paradigm's conception of language as a system of vocal signals, or its identification of

language with speech.

Experimental problems have correspondingly changed to accommodate the paradigm shift. Research on universals predominates; that on language differences recedes, except where the latter shed light of the former. Before the 'new look', subjects were requested to extend their power of perception to alleged stress contrasts such as on the up in pairs like: They ran up a bill/They ran up a hill; or to differentiate "market" from "mark it" by recognizing an external open juncture in the last case but not in the first. But with the new directive for research, the subject's ability to realize two interpretations of strings like "flying airplanes can be dangerous" is shown to depend on no necessary difference in the physical stimulus, but on a built-in knowledge of grammatical possibilities for that string, involving different underlying rules. Thus, where differences between grammatical structures consistently correlate with intonational contrasts, the latter merely cooperate with the assignment of possible structure(s) to help identify the grammar of the sentence.

Typical of the influence of the now popular paradigm on laboratory efforts is an experiment which, among other things, locates clocks within segments to see if the hearer will relocate them at major segment boundaries in spite of their physical occurrence elsewhere.[11] One experiment, testing for syntactic and semantic constraints on the perception and free recall of varying strings of words, finds G. Miller conceding that the results are common sense, yet discouraging if one's "theory of

speech perception requires solution at the level of phonetics, words or nonsense syllables."[12] The limited concerns of pre-revolution psycholinguists as these informed experimentation undoubtedly motivated Miller--himself once a devoted behaviorist--to make the quoted comment.

Revolutionary grammar books produced at all levels, from elementary through college, reflect different stages of transformational revision; but during the crisis period, when both paradigms were striving for the limelight, some books combined material from the earlier paradigm with what was available and/or seemed appropriate from the revolutionists. A reviewer would then point out that the premises of the one were frequently incompatible with those of the other. Recent texts may summarize stages in the development of transformational-generative grammar and then begin to apply the latest revision to a description of the generation of sentences. But there is now hardly any trace of a change in problems due to the changed perspective in science. This is normal for textbooks, but Kuhn indicts them for masking revolutions in this manner. Such disguise contributes in no small way to the layman's and practitioner's distorted view of science--to the notion that science simply advances by means of accretions in a strictly cumulative way.[13] It tends to perpetuate the notion that science merely states facts, is dispassionate, detached, and impersonal. Besides Kuhn's work and our own experience in the recent history of linguistics, Michael Polanyi's "Personal Knowledge"[14] contributes in a sophisticated way to the dispelling of such popularly held ideas.

In the area of language learning, the sequence of stimulus, response, reinforcement, habit formation presents itself as quite misguided by the rationalist's assumptions. In opposition to others, T. Grant Brown defends the continued use of pattern practice but acknowledges that its original basis in theory is quite faulty according to current concepts, especially those of the neo-transformationalists (generative semanticists), and that its foundation in behavioristic psychology must be recognized as too simplistic. He argues, however, that the concept of pattern practices can be salvaged and made to fit current theory if these practices are seen to perform the task of "reorganizing automatic cognitive processes," rather than "forming a new habit system."[15] Here again, practice is seen as outgrowth of paradigm, although in this case, if Brown is right, the differing outlooks allow for the same teaching device.

With the demise of the autonomous phoneme, the attempts in reading materials to match phoneme to grapheme or to present similarly motivated spelling patterns is seen as ill-conceived and rarely necessary, since conventional orthographic symbols represent feature sets in an underlying sound system. These, in turn, are employed by the higher level structures that the child uses while reading. Thus, the altered 'facts' concerning phonology in theoretical linguistics have their consequences in altered 'facts' on how the reading process transpires and what materials are desirable for use.

As the definitions, methods, and goals related to science change from those of the pre-revolutionary linguist to those of the revolution (or post-revolution) a battle of words ensues over

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who is really'doing' science. Kuhn reveals that in such cases the supporters of one paradigm often refer to the adherents of the other one as unscientific, speculative, or metaphysical.[16] This has a familiar ring in the recent history of linguistics. Thus, Hockett finds the followers of Chomsky to have "abandoned 'scientific linguistics' in favor of the speculations of a neo-medieval philosopher"[17] (i.e. the rationalism of Descartes). However, Chomsky claims that the Modern Linguist "shares the delusion that the modern 'behavioral sciences' have in some essential respect achieved a transition from 'speculation' to 'science'."[18] Moreover, Chomsky refers to the "behariorists' account of language use and acquisition" as "pure mythology,"[19] while the chief spokesman for that account (B. F. Skinner) regards mentalistic psychology to be nonexistent and decries Chomsky's reintroduction of the concepts of mind and the innate. To Skinner such ideas are parts of a conglomerate which he blesses (?) with the label "mythical machinery."[20] Yet it is well known that Skinner claims objectivity and science for his own operant behaviorism and denies being involved with metaphysics.

The preceding indicates a final relationship of paradigm to practice--the practice of attributing science to one's own paradigm commitment and speculation or myth to that of the opposition. Chomskyian (and post-Chomskyian) linguistics can be regarded as both older and newer than structuralism. Each has charged the other with being out-of-date--a suggested correlate of its less-than-scientific, mythological character. Kuhn's remarks at this point are instructive:

> If these out-of-date beliefs are to be called myths, then myths can be produced by the same sorts of methods and held for the same sorts of reasons that now lead to scientific knowledge. If, on the other hand, they are to be called science, then science has included bodies of belief quite incompatible with the ones we hold today. Given these alternatives, the historian must choose the latter. Out-of-date theories are not in principle unscientific because they have been discarded. That choice, however, makes it difficult to see scientific development as a process of accretion.[21]

It is here contended that these charges and counter-charges of myth and out-of-dateness have their source in a pre-scientific choice of paradigm. The chosen paradigm not only serves as directive for scientific endeavor, but also as judge over what is and what is not to be taken as science.

By way of summary and conclusion, it bears reemphasis that the mode of abstraction and directive for research will indicate the paradigm bias of the linguistic scientist (or any scientist); that this directive must be critically appraised for the way it informs theory, fact, research, and application; that the ultimate criterion for evaluation cannot incontrovertibly be an appeal to the variously interpreted concept 'science'; that the critic must thereby be aware of his pre-scientific grounds for judgment; and that no amount of proof, reason, reference to explanatory power, etc., commands the acceptance of a new paradigm. Instead, as Kuhn has established through extensive research into the nature of scientific revolutions, to pass from one paradigm to another requires that one be converted.[22] In other words, to go along with a paradigm shift necessitates a leap of faith. Nevertheless, an increase in knowledge is often the contribution

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of ongoing research representing scientific endeavor exemplifying a 'new' paradigm. Moreover, distortion seems especially to characterize those starting points that unduly restrict analysis and research. Therefore, since the transformational (and neo-transformational) model probes more deeply into the reality of language, often compensating for the inadequacies of the structural approach to account for the data, it is to be preferred. These richer theories illustrate advance through their incomplete and provisional demonstration of the laws of language on a global scale. However, the charge of onesideness as this applies to the now dominant perspective(s) is not easily answered. To the extent that it cannot be answered, the current 'rationalist' efforts must also be viewed as too limiting to satisfactorily account for the phenomena (language) they are attempting to explain. With that observation a rereading of the first paragraph of this paper constitutes an appropriate finale.

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A Structural Semantic Analysis of the "Punch Line" of
Sherwood Anderson's Short Story, The Egg

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Structural Semantic Theory -- To organize the facts about meaning and meaning relations in natural languages, Katz and Fodor have concluded that "the semantic theory is a theory of the speaker's ability to interpret the sentences of his language."[1]

To explicate their semantic theory, Katz and Fodor have created a rigorously mathematical theory of structural semantics requiring entries in a form where certain elements are grammatical markers, other elements enclosed in parenthesis are semantic markers, while still other expressions enclosed in brackets are distinguishers. Using this system of markers, Katz and Fodor write projection rules which combine (amalgamate) sets of semantic paths dominated by a grammatical marker by combining elements (marked by grammatical markers, semantic markers, and distinguishers) to form a new set of paths or semantic readings for the sequence of lexical items under higher grammatical markers. Amalgamation, in essence, is the joining of elements from different paths under a given grammatical marker if these elements satisfy appropriate selection restrictions.[2]

Other structural semantic theories-- Since Katz and Fodor initially presented their "The Structure of a Semantic Theory," other linguists such as Sidney Lamb and more recently Uriel Weinreich have presented structural semantic theories tied to theories of grammar, the former's to stratificational grammar and the latter's to generative-transformational grammar.[3]

My structural semantic analysis-- My semantic analysis of a sentence is based upon the Firthian concepts of collocation and context and incorporates aspects of structural semantics, mentioned above.

For this analysis I have chosen the following sentence taken from the final paragraph of Sherwood Anderson's, The Egg: "He laid the egg gently on the table and dropped on his knees by the bed as I have already explained."[4]

Notation and symbols used in the analysis--In this analysis I use a generalized generative-transformational notation. However, certain other symbols and notations should be explained and are listed here.

1. S-K.1 followed by two slant lines (//) means "kernel sentence number 1."
2. S followed by three slant lines (///) indicates the surface structure of the sentence under analysis and applies to Step VII of the analysis.
3. No. in the phrase structure rules means the grammatical category of number.
4. Loc means "Locative adverbial."
5. Adv. means "adverbial."
6. Tposs means "the possessive transform."
7. Tdelete means "the deletion transform."
8. Tconcat means "the concatenation transform."
9. K= means "concatenation by a coordinating conjunction."
10. K≠ means " concatenation by a subordinating conjunction."
11. Parentheses ( ) around a cover symbol in Step II means optional.
12. Double parentheses (( )) in Step III and afterwards mean "syntactic features carrying grammatical meaning."
13. Slant lines / / in Step III and afterwards mean "semantic features."
14. Triple parentheses ((( ))) as used in Step V and afterwards indicates

"meaning gained through context of the situation."

15. The arabic numeral superscripts above the lexical items in Step IV indicate the sequential number of the morphemes in the lexical string.

As noted in the text, the scope of this paper precludes a complete analysis and discussion of the complete sentence. Only one kernel sentence has been completely analyzed.

Semantic Analysis

Step I - Determining the deep structured kernels from the surface structure.

S-K.1// He laid the egg gently on the table and (K=) +

Tconcatenation-coordination

S-K.2// dropped on his knees by the bed + Tdeletion as (K≠)

+ Tconcatenation-subordination

S-K.3// I have already explained + Tpermutation.

Step II- Identifying the generalized phrase structure rules.

S-K.1// (1) S → NP+VP (2) NP → { PropN / Det+N+No. / Pron. } (3) NP^1 → Pron. (4) Pron → he

(5) VP → -ed + Vt + NP2 + (Adv^1.) + (Adv^2.) (6) NP2 → Det+N+No.

(7) Vt → lay (8) Det → the (9) N → egg (10) No → { -sg / -pl → sg / -3g/pl }

(11) Adv^1 → Man → Adj + ly → gently

(12) Adv^2 → Loc → Prep phr → Prep + Det + N + No → on the table

S-K.2// (1) S → NP + VP (2) NP → { PropN / Det + N + No / Pron } (3) NP → Pron.

(4) Pron → he + Tdelete → Ø (5) VP → -ed + Vint + (Adv 1)

+ (Adv2) (6) Adv1 → Loc → Prep Phr → Prep + Det + N + No

→ on his knees + Tposs (7) Adv2 → Loc → Prep Phr → by the bed.

S-K. [3// (1) S→ NP + VP (2) NP→ Pron→ I (3) VP→Pres + (have:en) + Vint + (Adv) (4) Vint→ explain (5) Adv→already

Step III- Listing of the syntactic features on a "Sentence-Phrase" structure level

(1) S→ NP + VP ((theme + proposition, where the theme is "he" and the proposition is "laid the egg gently on the table" in S-K.1; "he" and "dropped on his knees by the bed" in S-K.2; and "I" and " have already explained" in S-K.3))

Step IV- Listing of the syntactic and semantic features of each lexical item.

S-K.1 he[1] + lay[2] + past[3] + the[4] + egg[5] + gently[6] + on[7] + the[8] + table[9]

1-he ((+subject + actor + Pron. + Collocation with referent "father" + Tdelete + "my father" → ["father" + intimacy] + concrete + animate + human - prenominal modifiers + postnominal modifiers + participant of the narrative event-participant of the speech event))

/ (A) + male + he who begets a child + parent + provider + protector (B) + male + forefather (C) + male _ person deserving respect because of age, position, etc. (D) ± male + old + member of a profession or body (E) + male + senator + in Ancient Rome (F) + male + leader + in a city, assembly, etc. (G) + male + in time of early Christians + writer + theme of church doctrine + authority + reliable (H) + male + prient + affiliation with Roman Catholic Church (I) ± male + creator, inventor or originator (J) ± male + author, former, or founder 2- lay ((+ verb ± transitive + indicate + declarative + active _ affirmative)) / (A) ± causation

+ motion + downward + with force + collocation with "low" or "out"

(B) + causation + position + reclining/resting (C) + produce + deposit + collocation with "egg" + context of Sit. bird, etc.-context of Sit. NP + VP where N→ Nhuman or Ninanimate (D) + male + female + reproduction process + taboo + slang + context of NP as Cdo where N→N human

(Author's note: Note lay is an excellent example of the Pikean concept of the word and its meanings forming a complex system of homophonous morphemes. There are thirty eight meanings of lay. Only four are depicted here as a cluster of semantic features.)

3-Past ((+ mandatory + pre-verb))/ + action of the main verb takes place after narration by speaker of the speech event/

4-the ((+ noun determiner))/ + specific + known to all participants of the speech event/

5-egg ((+ headword of NP + noun + common + concrete-animate-human))/ (A) + oval + body + laid + by a female + bird, fish, reptile insect, etc. + contains the germ + reproduction + food for young + shell (B) + cell + reproduction + made by female (C) + of a hen + egg (sum of semantic features of (A))

6-gently ((+ adj +-ly + adverbial + manner))/+ mild + tender -force -violent/

7-on ((+ connective + function word signaling a NP + locative + direction + motion))/ + above + in contact with the surface + supported by /

8-the (syntactic features same as 4/ semantic features same as 4/)

9-table ((/ + headword of NP ((object of preposition)) + noun + common + concrete-animate-human))/ + piece of furniture + flat top + horizontal + four legs/

Step V Summarizing the meaning from the context of the situation.

Sentence K.1 //

he (((the author has constantly contrasted the use of "he," "my father," and "father." When Anderson wants to de-emphasize the theme of father and merely recount a series of actions, he uses "he." When the author wants to state formally the relationship between the first person minor narrator and the father, such as when the narrator of The Egg talks of his parent's propensity for scatter-brained ideas which typify him as a hopeless dreamer and a continual loser in life, Anderson often uses "my father." However, when the narrator sympathizes or pities the central character, the father, Anderson uses the ellipsized form of "my father,"-"father.")))

S-K.1 //

egg (((Anderson has established the egg as a symbol of the frivolity of the "dreamer" father.)))

S-K.2 //

dropped on his knees (((This action symbolizes the complete defeat of the father, especially since the egg in the preceding sentence symbolizes the frivolity which has caused the father's downfall)))

S-K.3 //

I (((The first person singular personal pronoun represents the speaker and narrator in a third person minor point of view. Through the narrator, the author establishes his tone which throughout the story represents a mixture of ironic humor, pity, love and understanding on the part of the narrator. Often the narrator-author's tone reflects a hidden criticism of the ne'r-do-well father which borders on ridicule.)))

Step VI-Cancellation of anomalous meanings by use of the collocation of the phrase structure, syntactic features, semantic features and the context of the situation. (Author's note: only S-K.1 will be used to demonstrate the process.)

(1) he- The referent is established as father having semantic features (A)/ + male + he who begets a child + parent + provider + protector/ and simultaneously cancels (B), (C), (D), (E), (F), (H), and (I)

(2) The syntactic feature ((+ human)) of he and father eliminates semantic features (C); the context of the situation in the previous story eliminates (A) and (D). The meaning shown by semantic features (B) / + causation + position + reclining or resting/ is established

(3) Collocation of egg with ((human)) and the lexical item lay requires the meaning designated by the semantic features (A) since a shell of sufficient hardness is required for the handling by a human and the process of "laying"

(4) The collocation of the lexical item on with table and egg requires the semantic features / + piece of furniture/, / + flat top / and / + horizontal/.

Step VII- The final summation of syntactic and grammatical features and the collocation of linguistic context and context of the situation into a total meaning.

S/// S-K.1// he[1]((+ subject + actor + theme + pron. + collocation with referent father + Tdelete of my father (((intimacy))) + concrete + animate + human + prenominal modifiers -post nominal modifiers + participant of the narrative event-participant of the speech event)) father[2]/+ male + he who begets a child + parent + provider + protector / (((+ de-emphasized theme to recount a series of actions))) lay[3]((+ verb + transitive + indicative + declarative + active + affirmative)) / + causation + to come to a position + reclining or resting + motion / Past ((+ auxilliary + mandatory + function word + pre-verb)) / + action of the verb takes place after the narration of the speech event by the narrator / the[4]((+ noun determiner)) / + specific + known to all participants of the speech event/ egg[5] ((+ headword of a NP ((goal)) + noun + common + concrete-animate-human))/ + oval body + laid + by a female + bird, fish, reptile, insect, etc. + contains the germ + reproduction of new member of species + food for young + shell (((symbol of the frivolity and lack of common sense of the father))) gently[6](+ adverbial + manner) (mild + tender-force-violent / on[7]((+ connective + function word signaling a NP + locative + direction + motion)) / + above + in contact with the surface + supported by / the[8] ((same as 4) and / same as 4) table[9] ((+ headword of NP ((object of preposition)) + noun + common + concrete-animate-human)) / + piece of furniture + flat top + horizontal + four legs/

// S-K.2. . . /// S [5]

In conclusion I feel the foregoing partial semantic analysis of the "punch" line of Sherwood Anderson's, The Egg, has illustrated sufficiently my semantic concepts discussed previously in this paper.

Footnotes

1. J. Katz and J. Fodor, "The Structure of a Semantic Theory," Language, 39: 170 ff, (1963).

2. Ibid., p. 170.

3. Cf. S.M. Lamb, Outline of Stratificational Grammar, (Washington, D.C.: Georgetown University Press, 1966) and Uriel Weinreich "Explorations in Semantic Theory"; Current Issues in Linguistics (ed. T.A. Sebeok), (The Hague: Mouton Co. 1968), vol. III, pp. 399-432.

4. S. Anderson, "The Egg" Short Story Masterpieces, (ed. R.P. Warren and A. Erskine), (New York: Dell Publishing Co, 1954) Laurel Edition, p.56.

5. In view of the limitation of space and the nature of this paper, the semantic analysis has been concluded at this point.

As V-ing Complements and Subject-Raising

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In an article titled "On the Surface Verb 'Remind'" Postal (1970) depends upon deriving sentence (2) below from a source identical to that of sentence (1) by Subject-Raising—on the way to deriving sentence 3:[1]

(1) It struck me that Harry was similar to a gorilla.

(2) Harry struck me as (being) similar to a gorilla.

(3) Harry reminded me of a gorilla.

I will explore first whether sentences (1) and (2) should be related in terms of Subject-Raising, then whether they can be derived from the same source, then what source or sources they might be derivable from.

Postal's derivation of (1) would go like (4):

(4) a. ME struck [[Harry was similar to a gorilla]] ⇒ PSYCH MOVEMENT
NPS SNP obligatory

b. THAT Harry was similar to a gorilla struck me ⇒ EXTRAPOSITION

c. it struck me that Harry was similar to a gorilla

And (2) would go like (5):

(5) a. ME struck [[Harry was similar to a gorilla]] ⇒ RAISING
NPS SNP

b. ME struck Harry (to be) similar to a gorilla ⇒ PSYCH MOVEMENT

c. Harry struck me (to be) similar to a gorilla ⇒ "obligatory operations"

d. Harry struck me as being similar to a gorilla

Postal speaks of a crucial similarity between structures containing strike and those containing perceive and adds: "The difference between strike and perceive is largely that the former undergoes one or both of the rules RAISING and PSYCH MOVEMENT while the latter undergoes neither." The sentences he then supplies apparently are to be taken as essentially equal:

(6) a. I perceive that Max has a large liver

b. it struck me that Max had a large liver

c. Max struck me as having a large liver

One thing that Postal has done is take the classical transformation of Subject-Raising[2] which relates noun clauses and infinitive complements—e.g., I believe that Mary is rich, I believe Mary to be rich—and apply it to as complements. But there is considerable question whether this is the same transformation. For instance, the classical "subject raising" verbs such as seem and believe do not take as complements:

(7) a. I believed that Harry was similar to a gorilla.

b. I believed Harry to be similar to a gorilla.

c. *I believed Harry as being similar to a gorilla.

(8) a. It seemed to me that Harry was similar to a gorilla.

b. Harry seemed to me to be similar to a gorilla.

c. *Harry seemed to me as being similar to a gorilla.

Nor does strike have an infinitive complement:

(9) * Harry struck me to be similar to a gorilla.

I don't believe the two forms can be considered complementary since both occur with perceive:[3]

(10) a. I perceive Harry to be similar to a gorilla.

b. I perceive Harry as being similar to a gorilla.

Postal's approach to this problem apparently would be to save RAISING by marking each verb as obligatorily or optionally taking or not taking an as complement. Yet there is further evidence against its being the same transformation acting to produce as complements and infinitive complements, since non-locative there will "raise" one step with the infinitive but not with as:[4]

(11) a. There seems to me to be no solution to your problem.

b. *There strikes me as being no solution to your problem.

c. I $\begin{Bmatrix}\text{believe}\\\text{perceive}\end{Bmatrix}$ there to be no solution to your problem.

d. *I perceive there as being no solution to your problem.

Besides evidence against infinitive complements and as complements being produced by the same transformation, there is evidence against that clauses and as complements being related; for instance, there are numerous examples of that clauses which have no corresponding form with as:

(12) It strikes me that Mary is eating lunch with her mother.

(13) *Mary strikes me as eating lunch with her mother.

(14) It has just now struck me that my wife has been dead two years tomorrow.

(15) *My wife has just now struck me as having been dead two years tomorrow.

Note that classical subject-raising verbs do not make this distinction:

(16) Mary seems to be eating lunch with her mother.

(17) I believe Mary to be eating lunch with her mother.

Interestingly, though both of the following exist, there is a notable difference in meaning:

(18) It strikes me that my wife has been dead two years.

(19) My wife strikes me as having been dead two years.

Sentence (18) refers to a sad event, sentence (19) to a sad state of affairs. (18) states a fact, (19) offers a characterization. And there is a clue.

I believe that only "characterizations" occur in as complements after strike. They might also be called descriptions or judgments. Note the following distinctions:

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(20) Mary struck me as (being) { a nice girl / *my only daughter }.

(21) Mary struck me as dressing { rather youthfully / *for dinner }.

(22) Mary struck me as having { pretty good sense / *my bicycle }.

(23) Mary struck me as { smiling in the face of adversity / *smiling at the movie }.

(24) Mary struck me as standing { about five foot, two / *in the fishpond }.

Note that only the acceptable as complements would serve to describe Mary: To describe Mary, one could say she is a nice girl, she dresses rather youthfully, she has pretty good sense, she smiles in the face of adversity, and she stands about five foot, two. "An only daughter" would be descriptive; "my only daughter" is not, and so on.

To catch the notion in the acceptable sentences (20) - (24) that an NP is being placed in a category that depends upon a judgment, one might want to say that they are simply variations on the form NP + be + Adj, as the following suggest:

(25) ...and Helen is pretty { nice / innocent / youthful in the way she dresses / sensible / plucky / short }, too.

Or perhaps the fundamental form should be NP + be +[NP_i [NP_i + be + Adj]], as would be indicated by "...and Helen is a pretty nice girl, too," and so on. At any rate, if that clauses are to be related to as complements, there will have to be a specification that only predicates of characterization will qualify subjects for RAISING, however difficult that might be to describe. Of course, is similar to a gorilla is certainly a predicate of characterization.

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Another strong argument against *that* clauses and *as* complements stemming from the same source is evidence of the following sort. In (26) below the speaker can not separate his viewpoint from that of Mary's but in (27) he can:[5]

(26) *It strikes Mary that Max has a larger liver than he has.

(27) Max strikes Mary as having a larger liver than he has.

Again, there doesn't seem to be much point in trying to block (26) and allow (27) in order to save Subject-Raising, considering the fact that classical subject-raising verbs don't make this distinction:

(28) Mary believes that Max has a larger liver than he has.

(29) Mary believes Max to have a larger liver than he has.

(30) It appears to Mary that Max has a larger liver than he has.

(31) Max appears to Mary to have a larger liver than he has.

The difference between (26) and (27) holds also for *perceive*:

(32) *Mary perceives that Max has a larger liver than he has.

(33) Mary perceives Max as having a larger liver than he has.

But note in particular that this parallel difference does not seem to depend upon identifying *perceive* with *strike* in deep structure; rather it depends upon a fundamental difference between *that* complements and *as* complements, as we see in (34) and (35):

(34) *Mary recalls that Max has a larger liver than he has.

(35) Mary recalls Max as having a larger liver than he has.

The differences between the *that* complements and the *as* complements which we have just been examining would be called one of factivity by Kiparsky and Kiparsky (to appear), the *that* complements being factive, the *as* complements non-factive. We will discuss this difference further. First, however, we must note that NP: S structures may also occur with *strike* and *perceive* in both kinds of sentences we have been studying:[6]

(36) $\left\{\begin{matrix}\text{Mary perceives}\\ \text{It}_i\text{ strikes Mary}\end{matrix}\right\}$ that it_j is ridiculous that Max has a large liver.

(37) $\left\{\begin{matrix}\text{Mary perceives}\\ \text{It}_i\text{ strikes Mary}\end{matrix}\right\}$ that it_j is possible that Max has a large liver.

(38) $\left\{\begin{matrix}\text{Mary perceives}\\ \text{It}_i\text{ strikes Mary}\end{matrix}\right\}$ that it_j is the case with Max that he has a large liver.

Apparently every predicate referring to a noun clause is a judgment, so there are corresponding *as* complements:

(39) $\left\{\begin{matrix}\text{Mary perceives it}_j\\ \text{It}_j\text{ strikes Mary}\end{matrix}\right\}$ as being ridiculous that Max has a large liver.

(40) $\left\{\begin{matrix}\text{Mary perceives it}_j\\ \text{It}_j\text{ strikes Mary}\end{matrix}\right\}$ as being possible that Max has a large liver.

(41) $\left\{\begin{matrix}\text{Mary perceives it}_j\\ \text{It}_j\text{ strikes Mary}\end{matrix}\right\}$ as being the case with Max that he has a large liver.

The distinction between the factive *ridiculous* and the non-factive *possible* is retained even in the *as* complement; only the former has an un-extraposed form:[7]

(42) That Max has a large liver strikes Mary as being ridiculous.

(43) *That Max has a large liver strikes Mary as being possible.

In (39) but not in (40) the speaker guarantees the validity of the noun clause, as we see below:

(44) *It strikes Mary as being ridiculous that Max has a large liver, but I doubt it.

(45) It strikes Mary as being possible that Max has a large liver, but I doubt it.

But each of these differences seems to stem from this difference:

(46) Max has a large liver and that fact strikes Mary as being ridiculous.

(47) *Max has a large liver and that fact strikes Mary as being possible.

(43) is bad for the same reason (47) is bad and (44) is bad for the same reason (48) is bad:

(48) *I doubt that fact.

So far it might appear that I am reiterating the position of the Kiparskys—that the occurrence of <u>the fact</u> as the sister to a <u>that</u> clause in deep structure constrains the occurrence of certain predicates. But the constraint as I see it is not between <u>the fact</u> or "factivity" and certain predicates but upon simple contradiction: All of the defective sentences we have just been examining of this sort contain contradictory assertions of the speaker: S_i is a fact—S_i is not a fact. In other words, I am claiming that reference to a proposition as <u>the fact</u> or treatment of it as a fact depends upon a concealed, deep structure assertion that it is a fact.[8] Actually, this is part of a broader principle: any specified NP has its existence and character vouched for by some speaker. Thus, you can be sued for 49 below as readily as for 50:

(49) Keep that moral leper you married away from me.

(50) Your husband is a moral leper.

The question remains of how such "concealed assertions" occur. The answer depends upon the fact that complements may relativize, a fact that appears to account for a variety of phenomena.[9] Thus, assertions about such complements appear with them in the relativization as their dominating S's. For instance, (39) and (40) would be related to (51) and (52) respectively:[10]

(51) This which I assert is {a fact about Max / the case with Max} [he has a large liver] strikes Mary as being ridiculous.

(52) This which I {do not assert is / assert is not / do not assert is not / *assert is} {a fact about Max / the case with Max} [he has a large liver] strikes Mary as being possible.

To state the rule informally which covers (51) and (52), if no negative appears immediately before or after <u>assert</u>, Extraposition is optional and the clause is factive. If either or both negatives occur, Extraposition is obligatory and the clause is non-factive. Notice that where no negative appears with <u>assert</u> in (52) it is defective. In (51) the material before the bracketed S can be

abridged to the fact if Extraposition does not take place; the corresponding material in (52) obviously cannot because of the negatives. Added evidence that a structure of this sort is necessary for the description of language is the fact that the various views of the speaker represented by the options in (52) can be conveyed by intonation in (40).

Now we return to a more basic question: Could then sentences like (41) derive from the same source as sentences like (53)?

(53) (Mary perceives / It strikes Mary) that Max has a large liver.

The answer seems to be yes and no. (41) is ambiguous as to the viewpoint of the speaker concerning the that clause. He may be either confirming or denying its truth, or remaining neutral. In (53), on the other hand, the speaker unambiguously confirms the truth of the that clause, as we can see in (54):[11]

(54) *(Mary perceives / It strikes Mary) that I am dead.

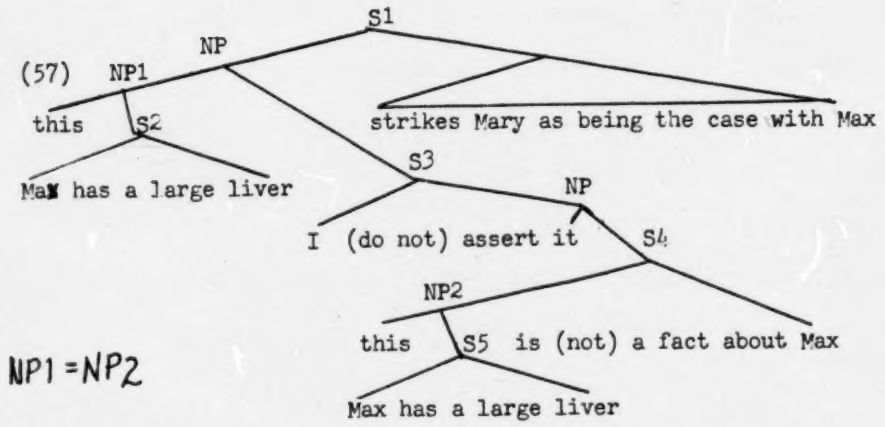
And (38) is similarly factive. Yet we have a means at hand to disambiguate (41) so that it will have the same intention as (53), the same kind of structure that we used for (51) and (52):

(55) This which I (do not) assert is (not) (a fact about Max / the case with Max)
[he has a large liver] strikes Mary as being the case with him.

(56) Mary perceives this which I (do not) assert is (not)
(a fact about Max / the case with Max) [he has a large liver] as being the case with him.

The occurrence of either or both negatives would block the option of deleting the as complement, to produce (41). Otherwise, (55) and (56) could produce (53) or a variant of (41).

(55) would have a tree representation like that in (57); (51), (52), and (56) would be represented similarly:



With a structure like (57) at hand, it might be argued that it could as well be the source for a sentence like (58), since a choice of a negative from S3 or S4 would guarantee non-factivity:

(58) Max strikes Mary as having a large liver.

It would be necessary still to restrict RAISING to subjects of predicates of characterization and to make careful distinctions between infinitive complement raising and as complement raising. And unless we wanted to have two sources producing identical surface structures with identical meanings, RAISING would have to be restricted to NP:S sentences, with a second raising, differently stated, to produce a sentence like (58). It seems mechanically possible, though expensive. On the other hand, if that were the way to produce a sentence like (58), what should stop it from operating with occur or notice?

(59) It never occurred to Mary as being the case with Max that he had a large liver. [non-factive]

(60) It never occurred to Mary that Max had a large liver. [factive]

(61) *Max never occurred to Mary as having a large liver.

Notice that occur will take Max as a subject:

(62) Max never occurred to Mary as a possible substitute for Fred.

(63) Mary never noticed it as being the case with Max that he had a large liver. [non-factive]

(64) Mary never noticed that Max had a large liver. [factive]

(65) *Mary never noticed Max as having a large liver.

So I think the more reasonable alternative is that both ordinary NP's and NP's dominating S's can be the focus to which as complements are attached, and that the factivity or non-factivity of ordinary noun clauses depends upon the concealed assertions associated with them in the latter case.

To return to sentences (1) and (2), I think the problem is that we have the same elements in different hierarchies. (1) focuses on a fact which is based upon first-hand observation of a person. (2) focuses upon a person of whom first-hand observation has established a fact. But one is not a transformation of the other any more than John hit Fred is a transformation of John hit Fred.

NOTES:

1. Subject-Raising is also known as Expletive-Replacement, Pronoun-Replacement, and IT-Replacement. Postal calls it RAISING.

2. "Classical" Subject-Raising is described in Lakoff (1966). But Chvany (1970) criticizes the transformation on the grounds that the pronoun is not "replaced" in Russian, Drachman (1970) argues from Greek that the rule depends upon copying rather than movement, and Cantrall (1969a, 1969b) attacks the rule on several grounds.

3. Despite Postal's statement that RAISING does not occur with perceive, the existence of an as complement after perceive seems indisputable. Perhaps he recognized a meaning difference, but he provides no further comment and no examples of such structures.

4. As Cantrall (1969a, 1969b) shows, there will "raise" only one step with the infinitive, though "regular" NP will seemingly go higher:

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a. There was believed by Irving to be a snake in his lunchbox.

b. *There was expected by Max to be believed by Irving to be a snake in his lunchbox.

c. The bagel was expected by Max to be believed by Irving to have been eaten by Seymour.

5. For a further discussion of this phenomenon, from three different angles, see Cantrall (1969b), Kiparsky and Kiparsky (to appear), and Lakoff (1968).

6. Note that $\underline{it}_j$ in (39), (40), and (41) has the same referent as the corresponding $\underline{it}_j$ in (36), (37), and (38).

7. For a further discussion of these differences, see Kiparsky and Kiparsky (to appear). Here strike adds no complication.

8. I am using concealed assertion rather than the more usual term, presupposition, partly because I want to emphasize that it has as much force as open assertion. We are as responsible for concealed assertions as for open ones. To say John has stopped beating his wife is to claim that he did beat her. Also, I would reserve presupposition to matters such as the speaker's belief that his addressee can (or possibly cannot) hear what is being said, understand the words, and identify the referents. In the example sentence, the speaker does not claim that the addressee knows who John is but rather depends upon the supposition that he does.

9. For a further discussion of the relativization of complements, see Cantrall (1969b, 1970a, 1970b, 1970c).

10. The relative clauses in (51) and (52) must be read as restrictive.

11. (54) shows exactly the same anomaly as this sentence shows: *I am dead. The sentence is contradicted by the evidence, roughly as follows: *I who am speaking and thus not dead am dead.

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"Facts About Current Indian English"

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This paper on Indian English is based on data I gathered from a study tour of India and from a computerized linguistic survey I made during this tour. From July 28 to August 18 I traveled widely in India--from Bombay to Trivandrum to Madras to New Delhi to Poona. I visited numerous universities and colleges, talked to Indian and non-Indian professors of English at these institutions, and spoke to Indian students at several institutions. By way of introduction, it is appropriate to begin with a short survey of the history of Indian English.

The English language was brought to India in the seventeenth century by the British. On December 31, 1600, Queen Elizabeth I signed a charter authorizing the East India Company of London to open trade with India and the East.[1] Bilingualism in English was gradually initiated and vigorously supported by three groups at different periods.[2] First, from the beginning, the missionaries opened schools in India and imparted English education to Indian boys and girls with the intent of proselytizing.[3] Second, a group of Indians, fascinated by the technological and scientific progress of England, wanted the introduction of English education in India, hoping that English would prove to be the key to material success and political advancement. Raja Ram Mohan Roy wrote to Lord Amherst on December 11, 1823:

> When this seminary of learning (Sanskrit school in Calcutta) was proposed, we understand that the government in England had ordered a considerable sum of money to be annually devoted to the instruction of its Indian subjects. We were filled with sanguine hopes that this sum would be laid out in employing European gentlemen of talents and education to instruct the natives of India in mathematics, natural philosophy, chemistry, anatomy, and other useful sciences, which the natives of Europe have carried to a degree of perfection that has raised them above the inhabitants of other parts of the world.[4]

Third, the British government encouraged missionaries to run English schools for the education of English and Anglo-Indian children. Lord Macaulay's policy of producing English-speaking bilingual civil servants in India was made into a law by the passing of the controversial Minutes of 1835. In 1857, three universities were established in Bombay, Calcutta, and Madras. With the gradual rise of colleges and universities, English became the academic language of India and was looked upon as the "prestige" language. In spite of national movements, the importance of English was not diminished; on the other hand, bilingualism struck deeper roots among the middle class with the spread of college education.

During the British Raj, English, as the official national language, as the language of higher education, and as an international language, attained a unique place of importance in India. Even after India became independent of British rule in 1947, English continued to be the official language up to January 26, 1965, along with Hindi. However, under the Official Language Act of 1963 English may continue to be used even after January 26, 1965, "for all the official purposes of the union

for which it was being used immediately before that day" and "for the transaction of business in Parliament."[5] Due to the violent opposition from non-Hindi speaking South Indians, the Government of India was forced to accept the Chief Ministers' Three Language Formula which insists on the compulsory teaching of the regional language, Hindi--in the Hindi areas another Indian language, and English or any other modern European language.

Today, English continues to function as the language of the Government of India. It is still the language used by courts of lay, institutions of higher education, and banks. Technical, scientific, and administrative writings are still published and read in English; English is the lingua franca of educated people from different parts of India; and it is the only foreign language learned by the vast majority of Indian students. Though it is spoken by less than two per cent of the Indian population, it commands the loyalty and support of the educated people in all Indian states. The importance of the English press can be gauged by the number of the most popular and widely read English newspapers in India, and this number is topped only by the 77 Hindi newspapers and the 69 Urdu ones. The increasing number of English medium grade schools and high schools all over India is another indication of the growing prestige and influence of English.

What variety of English do Indians speak, write, and teach? It is to be admitted that "Educated Indian English" is spoken very differently from British Received Pronunciation after which it is patterned. Halliday, Mc Intosh, and Strevens point out

that "one of the most important changes that took place in the period between 1950 and 1960 was the acceptance that to speak like an Englishman was not the obvious and only aim in teaching English to overseas learners."[6] With fewer native speakers of English in India, Indian English is developing in new directions.

Indian English is as difficult to define as British English and American English. There are dialects in Indian English as there are dialects in British or American English. Older linguists used to distinguish the following types of writings: 1. Anglo-Indian (non-Indian writers' writings about India); 2. Indo-Anglian (Indians who write in English about India); 3. Indo-Anglican (a confusing term for Indo-Anglian); 4. Indo-English (translations by Indians from Indian literature into English); 5. Indian English. The last term, first used by M. R. Anand, V. R. Bhushan, and P. E. Dastoor, is gaining greater currency in linguistic literature.[7] Indian English is a variety of the English language used as a second language (L^2 of J. C. Catford) by Indian bilinguals in an Indian cultural and linguistic context.[8] The Indian bilingual has a dominant primary language, his regional language (L^1 of Catford) like Hindi, Malayalam, or Bengali which he uses with greater facility in a wider range of situations. For some Indians, English has an equal status as his mother tongue. But, for most Indian bilinguals, English is a second language which "belongs to India both culturally and linguistically."[9] The varieties of English used in Britain, Australia, the United States, and Canada are primary languages (L^1). The varieties of Spanish, Polish, Hungarian, and Italian

used by second and third generations of immigrants in the United States and Canada are second languages (L^2). In the sense given above, English is a second language rather than a foreign language in India. In this paper, the cover term "Indian English" is used for that variety of the English language used by "educated" Indians. Thus, Indian English is distinguished from such pidgin languages humorously referred to as Babu English, Butler English, Kitchen English, Cheechee English, and Bearer English. A few examples of un-English expressions of these pidgin dialects are the following: "to marry with," "to make friendship with," "to make one's both ends meet," "America returned," "pin-drop silence," "a failed M. A.," and "a welcome address".

In order to distinguish "educated Indian English," Professor Kachru makes use of the term "Cline of Bilingualism" borrowed from Halliday.[10] The Cline comprises three measuring points: the zero point, the central point, and the ambilingual point indicating a gradation toward an educated form of Indian English. An Indian speaker of English, who ranks above the zero point may be considered a bilingual; Babu English speakers are grouped below the zero point which is not the end point on the scale. A standard or educated user of Indian English ranks somewhere between the central and ambilingual points on the Cline.[11] These educated bilinguals are civil servants, educationists, college graduates, and politicians. The variety or dialect of English they use is influenced considerably by various sub-strata and is found in the English writings of Indians in books, newspapers, and periodicals.

What constitutes educated Indian English are its similarities in phonology, vocabulary, and grammar with British English or American English. What makes Indian English a dialect different from British English and American English are its phonological, lexical, and grammatical differences.

There have been numerous studies on the phonology of Indian English. These were inspired by pedagogical reasons. Pedagogically, this level is still considered the primary level. The limitations of this paper permit me to make only a few observations about the phonology of Indian English. One should distinguish between the phonology of Dravidian English spoken by native speakers of the Dravidian languages: Tamil, Telugu, Kannada, and Malayalam and native speakers of the Indo-European derivations from Sanskrit: Assamese, Bengali, Gujerati, Hindi, Kashmiri, Marathi, Punjabi, and Urdu. The reason for this distinction lies in the fact that the phonological patterns of the primary language influence the learned phonological pattern of English. According to R. K. Bansal, "it is mainly in distribution of the vowel phonemes that the various Indian speakers diverge from the normal R. P. pattern."[12] "Generally speaking, educated Indians have a system of 12 to 14 vowels in their English. These are: [i], [ɪ], [e], [ɛ], [æ], [a], [ɒ], [ɔ], [o], [ʊ], [u], [ʌ], [ə], [ɜ]."[13] "[w] and [v] can be treated as one phoneme for most speakers. [z] does not exist for some speakers. Some speakers use [š] very rarely. [p], [t], and [k] are generally unaspirated in all positions where it occurs in spelling."[14] In Bengali, English <u>same to you</u> becomes <u>shame to you</u>. This substitution is

due to the influence of the native language phonology. Spelling pronunciations are very common. Indian speakers often stress words differently from, say, the R. P. pattern, because they learn the words from books and not from native speakers.

However, it should be stressed that the main phonological features which separate Indian English from the L^1 varieties of English are not necessarily deviations in the segmental phonemes but deviations in stress, intonation, rhythm, and juncture. Gopalkrishnan makes the following observations on the stress deviations of South Indian speakers of English: 1. There is a general unawareness of the patterns of primary as well as secondary stress: /'mækbəθ/ for /mək'beθ/; 2. There is a tendency to ignore the differentiating stress patterns of nouns, adjectives, and verbs; 3. There is an unawareness of the shift in stress found in different parts of speech derived from the same "Latin or Greek root." (philósophy and philósophical).[15] The main reason for the deviations in stress is that "all the main South Asian Languages are syllable-timed languages, as opposed to English which is a stress-timed language."[16] This may be the reason why Indian English is often called "sing-song" English.

There are two lexical items that demand our attention: one, words of Indian English that are "non-shared" with other varieties of English; the other group is made up of words from Indian languages that are transferred to the other dialects of English. Earlier scholars compiled a list of words belonging to the first group.[17]

As early as 1886, Yule and Burnell published a glossary of

Anglo-Indian words:[18] "Words of Indian origin have been insinuating themselves into English ever since the end of the reign of Queen Elizabeth . . . when such terms as calico, chintz, and gingham had already effected a lodgement in English warehouses and shops."[19] In 1893, Fennell listed 336 Hindi (Hindoo), 32 Sanskrit, and 31 Dravidian woes in the English vocabulary.[20] Sergeantsen[21] and Subba Rao[22] also published useful accounts of Indian loan words in English. These studies show the interaction between Indian languages and English.[23]

The grammatical features of Indian English provide an interesting field of study for linguists. There have been studies made on certain grammatical aspects of Indian English. Dustoor has pointed out the absence or misuse of articles in the deictic system of Indian English.[24] The reason for this error is the influence of native Indian languages which do not have any definite articles. Kachru in his doctoral dissertation compared and contrasted the systems of structures of verbal groups and nominal groups of British English and Indian English.[25] His attempt has failed to show any significant difference.

A. F. Kindersley has some interesting observations on certain grammatical features of Indian English:[26] 1. In the reflexive verbs (e.g., enjoy, exert) the reflexive pronoun is omitted. I think this is due to the tendency of Indian languages to shy away from the use of reflexive verbs. 2. In place of transitive verbs, intransitive verbs are used (e.g., reach, waive) or the opposite (e.g., preside, dissent). 3. In constructions, such as verb plus particle (dispose of), there is a tendency to add an extra particle.

My contribution to the study of Indian English is the computerized survey of the grammar of Indian English I made in India last summer (1970). Basically, I used the same test on current usage given by Sterling Leonard and the NCTE in 1927. A list of 230 expressions "of whose standing there might be some question" was submitted by me to a group of 160 judges who are primarily linguists and teachers of English. I made some minor changes in Sterling's list in order to fit it in the Indian situation. Each judge was asked to score on IBM cards according to his observation of actual usage, not on his opinion of what it should be. I received over 120 responses. Some did not comply; 90% of the responses are from linguists and teachers of English in colleges and universities located in Bombay, Delhi, Calcutta, Madras, Bangalore, and the state of Kerala. I should make the grateful mention that I received more responses from women than men.

Each expression was to be classified in one of the following categories: A. Literary English: "formally correct English, appropriate chiefly for serious and important occasions, whether in speech or writing; usually called Literary English;" B. Colloquial English: "fully acceptable English for informal conversations, correspondence, not wholly appropriate for occasions of literary dignity; standard, cultivated, colloquial English;" C. Popular or Illiterate Speech: "not used by persons who wish to pass as cultivated, except to represent uneducated speech, or to be jocose; here taken to include slang and dialect forms not admissible to the standard or cultivated area; usually

called 'vulgar English,' but with no implication necessarily of the current meaning of vulgar: naive, popular, or uncultivated English."

The informants had considerable difficulty with category C. I should have modified the category as follows: "illiterate speech, not used by persons who wish to pass as cultivated." In the course of my field work, I modified category C. The reason for this change is that English is only a secondary language (L^2) in India and that many informants never came across dialectal expressions such as: "A light-complected girl passed," "Hadn't you ought to ask your mother," "My cold wa'nt any better next day," "If John had of come," and so on. Most informants classified dialectal expressions and expressions they had never encountered under category C, or altogether omitted them.

The answers were sorted and tabulated by a computer. The sorting machine rejected over 25 responses on account of some recording errors. The computer, however, accepted 87 responses and classified the responses into three categories mentioned above. Those expressions which were approved as either literary or colloquial by at least three-fourths of the judges were ranked established; those approved by less than one-fourth were ranked illiterate; and those in between were classified as disputable. By these arbitrary standards, 54 expressions are established (as opposed to 71 of the Leonard Survey); 42 expressions are Illiterate (as opposed to 38 in the Leonard Survey); and 134 are disputable (as opposed to 121 in the Leonard Survey). From this it appears that the judges were rather conservative in their

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judgments of grammaticality. It is interesting to note that the following expressions were classified as literary or colloquial: "It's me;" "Reverend Jones will preach;" "You are older than me;" "The data is often inaccurate;" "We will try and get it." The expression older than me shows the tremendous influence of the native languages on Indian English.

A. ESTABLISHED USAGES

1. A Tale of Two Cities is an historical novel.
2. It was I that broke the vase, father.
4. I felt I could walk no further.
10. It is me.
11. One rarely enjoys one's luncheon when one is tired.
19. In this connection, I should add...
20. This is a man... I used to know. (Omitted relative.)
28. I guess I'll go to lunch.
29. You had better stop that foolishness.
30. Each person should of course bear his or her share of the expense.
32. He went right home and told his father.
35. This hat is not so large as mine.
36. My position in the company was satisfactory from every point of view.
38. I expect he knows his subject.
39. Reverend Jones will preach.
42. In the case of students who elect an extra subject, an additional fee is charged.
44. I for one hope he will be there.
48. Under these circumstances I will concede the point.
49. I have no prejudices, and that is the cause of my unpopularity.
50. You may ask whomsoever you please.
51. You are older than me.
56. The honest person is to be applauded.
57. He stood in front of the class to speak.
59. This much is certain.
60. He did not do as well as we expected.

A. (cont.)

61. We got home at three o'clock.

62. He has no fear; nothing can confuse him.

67. As regards the League, let me say...

70. "You just had a telephone call." "Did they leave any message?"

71. I was attacked by one of those huge police dogs.

73. This was the reason why he went home.

79. The data is often inaccurate.

84. I drove the car around the block.

85. He doesn't do it the way I do.

87. Will you go? Sure.

90. Our catch was pretty good.

94. We have made some progress along these lines.

100. My colleagues and I shall be glad to help you.

102. That will be all right, you may be sure.

103. We will try and get it.

107. Leave me alone, or else get out.

111. I can hardly stand him.

112. He was home all last week.

113. I'd like to make a correction.

123. The man was very amused.

126. That's a dangerous curve; you'd better go slow.

127. There are some nice people here.

133. Will you be at the Shahs' this evening?

135. I don't know if I can.

156. My viewpoint on this is that we ought to make concessions.

165. This room is awfully cold.

A. (cont.)

166. Yes, our plan worked just fine.

227. The child was weak, due to improper feeding.

230. Is your insurance sufficient coverage for your house?

B. DISPUTABLE USAGE

3. That clock must be fixed.

5. Why pursue a vain hope?

6. My contention has been proven many times.

7. John had awoken much earlier than usual.

9. Ray, who was then in town, was with me the three or four first days.

12. The invalid was able partially to raise his body.

13. One rarely likes to do as he is told.

16. It behooves them to take action at once.

17. He never works evenings or Sundays.

18. I had rather go at once.

21. They have gotten a new car this year.

22. The bus depot burned down last night.

25. I took it to be they.

26. Now just where are we at?

31. A women whom I know was my friend spoke next.

33. Galileo discovered that the earth moved.

37. He could write as well or better than I.

40. I can't seem to get this problem right.

41. He toils to the end that he may amass wealth.

43. The defendant's case was hurt by this admission.

45. This is the chapter whose contents cause most discussion.

46. I was pretty mad about it.

52. All came except she.

53. The party who wrote that was a journalist.

54. What are the chances of them being found out?

55. There is a big woods behind the house.

B. (cont.)

58. I know it to be he.

63. Do you wish for some ice cream?

64. My Uncle Roger, he told me a story.

66. There is a large works near the bridge...

68. Intoxication is when the brain is affected by certain stimulants.

69. Neither of your reasons are really valid.

72. The women were all dressed up.

74. He dove off the pier.

75. I calculate to go soon.

77. That ain't so.

78. Trollope's novels have already begun to date.

80. He looked at me and says...

81. This book is valueless, the one has more to recommend it.

82. Take two cups of flour.

83. None of them are here.

86. The Bangalore climate is healthiest in winter.

88. He is kind of silly, I think.

89. One is not fit to vote at the age of eighteen.

91. I will probably come a little late.

93. Ain't that just like a man?

95. The goalie stands back of the goal line.

96. That was the reason for me leaving school.

97. Both leaves of the drawbridge raise at once.

99. I have drunk all my milk.

101. I went immediately into the banquet room, which was, I found later, a technical error.

104. We cannot discover from whence the rumor emanates.

B. (cont.)

105. I'll swear that was him.

106. The light is lit.

109. The old dog was to no sense agreeable.

110. Of two disputants, the warmest is generally in the wrong.

114. I've absolutely got to go.

115. It was good and cold when I came in.

116. We haven't but a few left.

117. In the collision with a Ford, our car naturally got the worse of it.

118. I wouldn't have said that if I had thought it would have shocked her.

119. They ate (pronounced as et) at twelve o'clock.

120. Yourself and your guests are invited.

124. Such naif actions seem to me absurd.

125. We can expect the commission to at least protect our interests.

128. It seems to be them.

129. Everybody bought their own ticket.

130. Say, do you know who that is?

134. Have you fixed the fire for the night?

136. In hopes of seeing you, I asked...

137. I suppose that's him.

138. I can't help but eat it.

139. Aren't ('nt or rnt) I right?

140. There is a row of beds with a curtain between each bed.

142. It says in the book that...

143. If it wasn't for football, school life would be dull.

144. His attack on my motives made me peevish.

145. I have a heap of work to do.

B. (cont.)

146. If I asked him, he would likely refuse.

147. John didn't do so bad this time.

149. We taxied to the station to catch the train.

150. We only had one left.

152. Everybody's else affairs are his concern.

157. Factories were mostly closed on election day.

158. That boy's mischievous behavior aggravates me.

162. He moves mighty quick on a tennis court.

163. He stopped to price some furniture.

164. He worked with much snap.

168. The fire captain with his loyal men were cheered.

169. Don't get these kind of shoes.

170. Who are you looking for?

171. A treaty was concluded between the four powers.

172. You had to have property to vote, in the eighteenth century.

173. The kind of apples you mean are large and sour.

174. The Americans look at this differently than we do.

177. I felt badly about his death.

178. The real reason he failed was because he tried to do too much.

179. Invite whoever you like to the party.

180. Drive slow down that hill!

182. My cold wasn't any better next day.

183. It is liable to rain tonight.

184. Harry was a little boy about this tall.

185. I didn't speak to my uncle by long distance; I couldn't get through.

186. They had numerous strikes in England.

B. (cont.)

189. I have got my own opinion on that.

190. He made a date for next week.

191. I suppose I'm wrong, ain't I?

193. John was raised by his aunt.

195. My father walked very slow down the street.

196. There was a bed, a table, and two chairs in the room.

197. They invited my friends and myself.

198. It is now plain and evident why he left.

200. He did noble.

201. My experience on the farm helped me some, of course.

202. I wish I was wonderful.

204. It's real hot today.

206. What was the reason for Sheila making that disturbance?

207. Can I be excused from this class?

208. Haven't you got through yet?

210. We don't often see sunsets like they have in Bombay.

211. Just set down and rest awhile.

212. Everyone was here, but they all went home early.

213. He loaned me his skates.

214. I am older than him.

215. She leaped off of the moving car.

216. My folks sent me a money order.

217. He came around four o'clock.

218. If it had been us, we would admit it.

222. They went way around by the orchard road.

223. The banker loaned me Rs. 1000 at 7%.

B. (cont.)

224. It looked <u>like</u> they meant business.

225. Do it <u>like</u> he tells you.

226. They <u>swang</u> their partners in the reel.

228. <u>Rams</u> Store is on Queen's Street.

C. ILLITERATE SPEECH

8. If Johnny had of come, I needn't have.

14. I haven't hardly any money.

15. The engine was hitting good this morning.

23. Can I use your typewriter? No, it's broke.

24. Sitting in back of John, he said, "Now guess what I have."

27. The kitten mews whenever it wants in.

34. He drunk too much soda water.

47. Either of these three roads is good.

65. He begun to make excuses.

76. This is all the further I can read.

92. I must go and lay down.

98. The people which were here have all gone.

108. That there rooster is a fighter.

121. One of my brothers were helping me.

122. I enjoy wandering among a library.

131. A light complected girl passed.

132. I want for you to come at once.

141. He won't leave me come in.

148. There was a orange in the dish.

151. Cities and villages are being stripped of all they contain not only, but often of their very inhabitants.

153. It was dark when he come in.

154. It don't make any difference what you think.

155. I read in the paper where a plane was lost.

159. That bank drash left me busted.

160. You was mistaken about that, John.

161. Neither author nor publisher are subject to censorship.

C. (cont.)

167. I wish he hadn't of come.

175. Hadn't you ought to ask your mother?

176. Most anybody can do that.

181. He most always does what his wife tells him.

187. They went in search for the missing child.

188. I will go, providing you keep away.

192. I had hardly laid down again when the phone rang.

194. Martha don't sew as well as she used to.

199. It sure was good to see Uncle Charles.

203. I've no doubt but what he will come.

205. Somebody run past just as I opened the door.

209. His presence was valueless not only, but a hindrance as well.

219. She sung very well.

220. It is only a little ways farther.

221. The neighbors took turns setting up with him.

229. The sailors laid out along the yards.

Certain conclusions can be drawn from the survey and from comments made by Indian linguists. English is not a primary language (L^1) in India. Fr. Antonisami, S.J. of Loyola College, Madras, writes: "There is no colloquial English [as such] in India except in very limited circles." Thomas Paikeday, a lexicographer, writes; "Most of the expressions marked C [illiterate speech] is not in use here." A second linguist makes the following observation: "I have left several unmarked on the IBM cards either because I have not observed the usage of the word underlined or because I have not been able to assess the degree of formality/informality of a particular usage." However, Sister Sheila O'Neill, vice-principal of Stella Maris College, Madras, writes: ". . . several of these expressions are not heard at all in South India, while a few others are just coming into use among the young, who adopt them deliberately as Americanisms." Professor V. J. Augustine writes: "we have no proper 'slang' or accepted dialect forms in our English (except perhaps 'cousin-brother,' 'cousin-sister,' etc.)." I can conclude in the light of this survey that Indian English is based on written English style. Mr. Agoram writes: "Since the English language is learnt through standard books, periodicals, and men of eminence, it is more chaste and admirable." (I do agree with Mr. Agoram's premise, but not with the conclusion which is a non sequitur.) According to Kachru, there are two reasons for the "bookishness" of Indian English. The first is that in both written and spoken media, Indian bilinguals tend to use certain lexical items that have been dropped or are less frequent in

modern English. Samuel Mathai writes:

> Although there were 'English' teachers of English in many of the schools and colleges of India, inevitably the Indian learned a great deal of his English from books. Indian English was therefore always inclined to be bookish, and not adequately in touch with the living English of the day; and when we remember that the books which we re-read as models of good English were the works of Shakespeare and Milton and other great poets and dramatists and prose writers, it is not surprising that the more eloquent utterances of Indians (whether spoken or written) were often garnished with phrases and turns of expression taken from the great writers. Sometimes these phrases were used without proper recognition of their archaic or obsolescent or poetic character.

The second reason is that the spoken medium is not taught as an academic discipline in India. Students are not taught to speak English but to write English. That is why Indian English does not sound conversational.

Finally, as the survey indicates, there are considerable similarities between Indian English and its sister languages in England, America, and elsewhere. Most of the established items on the survey are considered as <u>established</u> in the Leonard Survey; so are the <u>disputable</u> expressions and samples of <u>illiterate</u> speech. With Randolph Quirk and Albert Marckwardt, one can speak of the English language written and spoken in India, England, the United States, Canada, Australia, and New Zealand as "a common language". At the same time, in the light of the special features of Indian English, one can say with justification that a variety of educated English has developed in a different linguistic and cultural context in India. Not only have Indian languages Indianized the English language, but English has contributed substantially to the Indian languages. Therefore, the influence has been mutual. If we can call

modern English the result of the marriage between Anglo-Saxon and Norman French, with equal rights we can say that Indian English is the result of the union of British English and Indian cultural-linguistic context. Indeed, English language today is an international language with different varieties in different countries.

NOTES

[1]See S. Nurullah and J. P. Naik, A History of Education in India (Bombay, 1951).

[2]Braj B. Kachru, "English in South Asia," Current Trends in Linguistics, ed. Thomas A. Sebeok, V (1969), pp. 628-33.

[3]See Julius Richter, A History of Missions in India, trans. Sydney H. Moore (New York and Chicago, 1908); N. N. Law, Promotion of Learning in India by Early European Settlers. (London, 1915).

[4]Selections from Educational Records, Part I (1781-1839), 99-101.

[5]The Official Languages Act 1963 (No. 19, 1963), Government of India. See Jyotindra Das Gupta, "Official Language Problems and Policies in South Asia," Current Trends in Linguistics, V, pp. 592-93: "The Act of 1963, however, satisfied none. The non-Hindi states did not like the way it was phrased. Section 3 of this Act stipulates that English may be used, not that it shall be used. In the perception of the non-Hindi elite, this was a concession to Hindi pressures. In many parts of India there were vocal protests. In Madras the protest took a violent turn. On January 17, 1965, the Madras State Anti-Hindi Conference urged the Tamil people to resist Hindi. A week later the students declared "Hindi never, English ever." Violent demonstrations against the Congress Government continued for about two months in the state of Madras. More than seventy persons lost their lives, fifteen hundred students were arrested, and three million dollars worth of public property was destroyed. . . The Congress Party decided to amend the Official Language Act of 1963 to implement the three language formula." See also R. L. Hardgrave, "The Riots in Tamilnad: Problems and Prospects of India's Language Crisisn" Asian Survey, V (1965), 390-407; S. Rajan, "India's Linguistic Dilemma," The Reporter, XXXII, 9 (1965), 31-32.

[6]M. A. K. Halliday, A. McIntosh, and P. Strevens, The Linguistic Sciences and Language Teaching (London, 1964), p. 203.

[7]See M. R. Anand, The King-Emperor's English (Bombay, 1948); V. N. Bhushan, The Moving Finger (Bombay, 1945); P. E. Dastoor, The World of Words (Bombay, 1968); Braj B. Kachru, "The Indianness in Indian English", Word, XXI (1965); Kachru, "Indian English: A Study in Contextualization," In Memory of J. R. Firth, ed. C. E. Bazell et all. pp. 255-267; Randolph Quirk and Albert Marckwardt A Common Language (London, 1964) p. 11; "We come increasingly to speak nowadays of 'Australian English', 'New Zealand English', and 'Indian English' . . ."

[8]Braj B. Kachru, "Indian English," op. cit., p. 255.

NOTES-2

[9]Ibid., p. 282.

[10]M. A. K. Halliday, "Categories of the Theory of Grammar," Word, XVII (1963), 248-49.

[11]Kachru, op. cit., p. 255. For a bibliography, see Kachru, "English in South Asia," op. cit., pp. 638-39.

[12]R. K. Bansal, The Intelligibility of Indian English (Hyderabad, 1969), p. 170.

[13]Ibid., p. 169.

[14]Ibid., p. 170.

[15]Gopalkrishnan, "Some Observations on the South Indian Pronunciation of English", Teaching English, VI (1960), pp. 62-67.

[16]Kachru, "English In South Asia," op. cit., p. 643.

[17]H. H. Wilson, A Glossary of Judicial and Revenue Terms of British India (Calcutta, 1940). Ryot and ryotwar are examples.

[18] N. Yule and A. C. Burnell, Hobson-Jobson: A Glossary of Colloquial Anglo-Indian Words . . . (London, 1903).

[19]Ibid., p. xv.

[20]C. A. M. Fennell, Preface in The Stanford Dictionary of Anglicised Words and Phrases, (Cambridge, 1892), xi.

[21]M-S Sergeantsen, A History of Foreign Words in English (New York, 1961).

[22]G. Subba Rao, Indian Words in English (Oxford, 1954).

[23]See also Kachru, "English in South Asia", pp. 650-54.

[24]P. E. Dastoor, "Missing and Intrusive Articles in Indian English", Allahabad University Studies, XXXII (1955), pp. 1-17.

[25]Kachru, "An Analysis of Some Features of Indian English: A Study in Linguistic Method", Ph.D. Dissertation (Edinburgh, 1962).

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[26]A. F. Kindersley, "Notes on the Indian Idiom of English: Style, Syntax and Vocabulary," TPhS (Oxford, 1938), pp. 25-34.

[27]Samuel Mathai, "The Position of English in India", British and American English Since 1900, ed. E. Partridge and J. W. Clark (New York, 1951), pp. 97-98.

THE CASE FOR LINGUISTIC DETERMINISM IN SOCIAL RESEARCH[1]

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Social scientists have tended to neglect the relationship of language and "reality" in their formulations of mind, self, and society. Recently, however, a flurry of studies dealing with the congruence of language, cognition, and society has emerged. The initial sources of this concern may be traced to the rich tradition of the French school of Durkheim, the symbolic interaction perspective of American sociology, and the early efforts of Boas and his students in American Indian studies. But, perhaps an even greater impetus was furnished by the language-world view analysis. Humboldt, Boas, Cassirer, Sapir, Whorf, and Hoijer, among others, have been concerned with the character of language in its role as foundation and instrumentality of the social construction of reality. The so-called nominalistic, or extreme, interpretation of linguistic determinism, usually associated with the work of Edward Sapir and Benjamin Lee Whorf, will be reviewed in this paper to assess: (1) the present state of the linguistic determinism argument, (2) the research generated from this positions, (3) present trends in sociolinguistics, and (4) recent efforts to articulate a linguistically-based social science.

Analysis of the Sapir-Whorf Hypothesis[2]

The notion that language is formative, as well as formed, provided the impetus for a conception of language as sui generis, or as a structure with its own particular set of principles which form a system. Rejecting the earlier assumptions of parallelism, Sapir postulated that language and culture were interpenetrable, and that a "virtual identity" or "close correspondence" prevails between word and thing. Language, in this context, not only refers to experience, but also, "actually defines experience" by reason of its formal completeness.

Even more significant in this viewpoint, is that there is an unconscious projection of the implicit expectations that are built into the language, and thence carried into the field of experience. Man is bounded by his linguistic forms, even when he thinks himself most free.

The logical extension of the sui generis thesis is the assertion that people speaking different language may be said to live in different "worlds of reality" in that the languages they speak affect, to a considerable degree, both their sensory perceptions and their habitual modes of thought. The language-determines-reality argument has, then, its analogue in the view that each language and culture group is different from and contrasted to every other distinct language and culture group.

The "real world," in Sapir's conception, is not only mediated and conditioned by the language of the group, but is essentially a construction built on the language habits of the group. "The worlds in which different societies live are distinct worlds," Sapir asserted, "not merely the same world with different labels attached."[3] This linguistic relativism is a special type of cultural relativism whose special character lies in the central role assigned to linguistic patterns.

This perspective, later developed more fully by Whorf, led to the notion by some thinkers that man can only think what he can say.[4] The categories of his language are the means by which the categories of his perception, memory, social organization, and behavior are created. A difference in categories implies a difference in modes of thought, which no translation can bridge.

Whorf has been credited with this more extreme view of linguistic determinism, in spite of his cautious suggestions that researchers seek

"traceable affinities" between language and culture, rather than correlational or diagnostic correspondences. Our concern here, however, is with the implications for subsequent interpretation and research. What Whorf <u>really</u> said is another problem altogether.

Whorf's pioneering effort to establish linkages between linguistic and non-linguistic data aimed at generalizations that purported to show the integral interconnectedness between language, cognition, and culture. Whorf based his findings on a comparative analysis of Indian linguistic systems and SAE (Standard Average European). In focusing on grammatical forms to support his case of linguistic relativity, however, Whorf took the <u>formal</u> and the <u>literal</u> components of meanings as the basis for analysis. The users and uses of language were not considered in his scheme.

Language and world view (or metaphysical assumptions) is a central theme in Whorf's writing. Such metaphysical concepts of time, space, actor, matter, and so on are deducible, not by any one system in the grammar (verb tense or noun, for instance), but by "analyzing and reporting experiences which have become fixed in the language as integrated fashions of speaking." Lexical, morphological, syntactic, and other systematically diverse means are coordinated in a certain frame of consistency by native speakers. These differences in grammatical forms are said to reveal how language shapes a people's <u>Weltanschauung</u>, or world view which, in turn, is coordinated in many ways to habitual behavior.

For example, Hopi and SAE contrast markedly in a number of large-scale linguistic patterns. Striking differences are found in plurality and enumeration, nouns of physical quality, temporal forms of nouns and verbs, and concepts of duration, intensity, and tendency. Through such linguistic comparisons, Whorf then infers "certain dominant contrasts" in habitual thought which is then projected into behavior. Linkages between Hopi linguistic and non-linguistic forms may be expressed in shorthand fashion as follows:

Tenseless verb ⟶ Lack of objectified time pattern ⟶

⟶ cultural emphasis on preparedness and repetition

SAE speakers, by contrast, split nouns into a form-plus-substance dichotomy (e.g. a glass of water) leading to a binary logic and dualistic conception of reality. Further, historicity, record-keeping, calendars, and even science are possible, Whorf inferred, because verb tenses are realized in an objectified sense of time.

Whorf speculated that the obligatory nature of language operates "behind" or "above" the focus of personal consciousness. In manipulating whole paradigms, words, classes, and grammatical orders, the thinker, in effect, is controlled by the structural boundaries of his language. Sub-linguistic perception, in this sense, is undoubtedly a primordial experience common to all men, but conscious awareness of sensations requires the linguistic apparatus.

Whorf resolved the problem of the mutual influence of language and culture by emphasizing the dominant role which linguistic patterns once established play. By limiting plasticity and rigidifying channels of development, language becomes the primary determinant of culture patterns. Meanings are thus locked into language categories. In turn, meanings control conduct.

As Fishman indicates, under the aegis of the Whorfian school, language itself is seen as an objective reality by means of which it structures and organizes the "out there" in certain characteristic ways.[5] The assumption, then, is that when languages differ maximally, the organizing schemata which their speakers impose on the non-linguistic world should also differ maximally.

Ethnographic Support of the Hypothesis: Whole-Language and Culture-Analysis

The impetus of Whorf's hypothesis had a salutory effect on linguistic and ethnographic work. In linguistics, for instance, the American formalistic orientation gradually gave way to a renewed concern with semantics and meaning analysis.[6] Some ethnographers, operating within the language-causation perspective, analyzed non-literate languages to discern the world-view that is incorporated in these various codification systems.

Malinowski's data on the Trobriand Islanders was the starting point for Dorothy Lee's investigation of this group's metaphysical assumptions (being, value, time, etc.) as these are articulated in the language and ceremonial life. In this analysis, language contains within it the premises of the culture, and "codifies reality in such a way that it presents it as absolute to the members of each culture."[7] Although, directionality is not explicitly stated, the implicit recognition that codification determines reality does seem apparent.

Kluckhohn and Leighton furnished data on the Navaho which supports the Whorfian thesis. The approach--from grammar classes and vocabulary to thought and behavior--is essentially that of Whorf's with some modification. While every language, they hold, "has an effect upon what the people who use it see, what they feel, how they think, what they can talk about," they add, that linguistic differentiations, "like other sorts of cultural selectivity, rest upon the historical experiences of the people."[8] This would suggest a culture-influences-language approach. Yet, the analysis of Navaho verbs as evidence of cognitive style makes the grammar-to-world-view analytic leap characteristically found in Whorf.

For example, Kluckhohn and Leighton contend that Navaho verb stems depend on the types of their subjects or objects (long-object class, granular

mass class, and so on), and fuse prefixes and other separable elements in accord with multitudinous alternatives. The excessively literal language, they conclude, is a consequence of this inner classification, and implies a highly concrete world-view with little scope for abstractions.

The problem with such analysis, of course, is that the very concepts of "concrete" and "abstract," would seem to be ethnocentrically-based. What is "concrete" and what "abstract," like the figure-and-ground problem in Gestalt psychology, may be in the mind of the beholder. Nevertheless, such data did give added credence to the Whorfian hypothesis.

Hoijer's work on the Navaho was a careful attempt to indicate functional interrelationships between socially patterned habits of speaking and thinking and other socially patterned habits.[9] Applying Whorf's technique of analysis, Hoijer claims that there are striking parallels between certain semantic themes and Navaho behavior. In three broad speech patterns, including conjugation of active herbs, reporting of actions and events, and the framing of substantive concepts, the Navaho stress the nature, direction, and status of movement in considerable detail. Correlated with this verbal orientation is the objective condition of Navaho nomadic life, which entails incessant movement from one pasturage to another. Further validation for Hoijer's correlations is furnished by Kluckhohn's non-linguistic data of the cultural postulates that underlie Navaho behavior.[10]

Critical Assessment of the Whorfian Hypothesis

Criticism focus on certain logical, methodological, and psychological difficulties inherent in the linguistic determinism argument. Such evaluations have stimulated various approaches to the language-culture problem, as in experimental work, ethnoscience, and a social contextual analysis to verbal behavior.

The critical question posed by Whorf and the whole-language and culture-analysis school revolves around the following point: do differences in language structure correlate or correspond to actual differences in ways of perceiving and conceiving the world, and thus affecting social behavior? Critical judgments have subsequently been aimed at not only the methodological weaknesses but also at the very conceptualization of the problem. Certain key criticisms are the following:

(1) The whole-patterns analysis, inherited from the work of Benedict and the early Culture and Personality School in Anthropology, is pre-scientific. The resulting research is impressionistic and intuitive, and lacks methodological and theoretical rigor.

(2) The principle of linguistic relativity, like the tenet of cultural relativity, is an assumption. Research suggests that the problem is more complex. Distinct cultures may have similar languages, while nearly identical cultures may possess distinctive languages.[11]

(3) A translation fallacy is implicit in Whorf's world-view thesis. The literal translations which Whorf offered of Indian phrases and sentences act to distort the significance of metaphors and historical changes of language.[12]

(4) A logical weakness is the circularity of inference implicit in Whorf's testing of the hypothesis.[13] A tautology is apparent as in the assertion that people perceive time differently from SAE speakers because their way of talking about it is different, and their way of talking about it is different, because they perceive differently.

(5) The assumption that language, thought and behavior categories are somehow equivalent provides the analytic leap from linguistic data to non-linguistic. This one-to-one correspondence has been rejected as untenable. Mauss (1900) holds for instance, that genders correspond to little more than linguistic survivals.[14] There is often a lack of a mirror relationship between linguistic and social categories. Investigation of these categories requires that the researcher operate within the frame of reference of the native speaker to extract relevant meanings.[15]

(6) Syntax and terminology do not necessarily inhibit any specific metaphysic. Aristotelian metaphysics has been expressed in such diverse languages as Syriac, Arabic, Hebrew, and Latin.[16] Classical Hebrew has ideas of "being," although the language possesses no abstract verb "to exist."

(7) The known facts of linguistic change, multilingualism, and cultural diffusion imply that autonomous culture change occurs. The absolute "tyranny" of language, in Sapir's words, does not prevent cultural exchange, translation, and new discriminations.[17]

Opposition also fastens on the inadequate field sampling (Newton), the premature categorization of linguistic items (Hockett), the failure to test alternative deterministic factors, such as history or belief systems (Greenberg), and the oversimplication of the purported social patterns.[18] Inherited linguistic patterns as these affect activities is least important in practical contexts, and most significant in myth, religion and philosophy. These different universes of discourse are really not commensurable.

The global approach of the Whorf School has now been abandoned. The illustrative and anecdotal materials which are presented to support the language-thought-culture argument have been rejected on the grounds that the procedure is

neither reliable nor valid. Three recent perspectives--the experimental approach in psycholinguistics, ethnoscience in anthropology, and social contextual analysis in sociology--have attempted, on the one hand, to subject the thesis to more rigorous testing, and on the other, to account for the strategic role of language in social relations.

In doing so, the original problem has been subsequently altered. Emphasis has focused on the development of limited propositions that assert the interrelatedness of language, cognition, and social conduct.

Experimental Evidence

Psycholinguistics includes a range of research interests. Studies of special interest are color perception and terminologies, ease or difficulty of codability, the influence of grammatical categories, and visual illusions.[19] While the problems are diverse, the research purpose has a common aim. Experiments attempt to systematically establish the type, degree, and conditions under which relations between codification (or speech behavior), cognition, and behavior may be said to exist.

Experimental findings suggest caution in any premature assumptions about the unidirectionality of linguistic behavior as affecting non-linguistic. For instance, increased use of categories, usually leads to shorter names, or higher codability. Color perception, however, may occur even without codification.[20] Language is not, then, the only experience man has with which to organize his perceptual field. Experiments on Navaho and English speaking children in Boston show that practice with objects or toys may be an instrumental in form-matching as learning a language such as Navaho with its grammatical categories of form and material.[21] The cross-cultural differences noted in geometrical illusion susceptibility do point to distinct Whorfian effects. That is,

environmental factors (size and shape of objects) tend to affect perception through the linguistic forms. Westerners do "see" differently from non-Westerners, which is a joint function of environmental and linguistic differences.[22] There is no simple cause (language), however, leading to an effect (behavior).

Ethnoscience or Folk Taxonomies

Recent work in cognitive anthropology aims at deriving the principles by which a people classify their universe.[23] Methods of discovering and describing cognitive systems include semantic categorization of native terminology, thus "discerning how people construe their world of experience from the way they talk about it."[24] Culture is here identified with cognition.

Codability, whether in color or disease terms, or in time-space experiences, does reveal significant cultural properties. In Frake's research among the Subanuns of the Philippines, he found that the apparent inconsistencies in disease concepts could be understood by recognizing the different levels of contrast. In this scheme, distinct, exclusive categories of illness were found at each level of contrast. Naming of illness has direct implications for behavior. Role performances, bride price calculations, and joking and drinking behavior are intricately related to communication of disease.

An analysis of noun classes and folk taxonomy in Papago by Mathiot shows a close affinity between linguistic patterns and perception. Papago speakers tend to indicate gradual, rather than yes/no or binary, oppositions. The supposed universality of a two-valued logic may be doubtful if perception is indeed a function of specific linguistic structures.[25]

In much of the work to date, ethnoscience research provides nice illustrations of the cultural relativity of semantic distinctions, and behavioral effects consequent from such codification systems. Objections have been raised,

however, to the notion that any single analysis reveals much about a people's cognitive structure. Folk taxonomies are partial tools, at best. Burling holds that a structural semantics approach which relates two observable types of data--language use and events in the nonlinguistic world--is more promising for working out the set of rules which guide a group's behavior.[26]

Social Contextual Analysis

In a very crucial sense, the linguistic determinism thesis has been abandoned--some would say, prematurely. Findings from experimental and field work studies point to the multiplicity of variables involved, the difficulty of establishing directionality, and the changing phenomenon of language itself. A so-called partial determinism, or possibilistic view, as articulated by Hymes and Carroll has set the tone for an analysis of semantic habits as these relate to the sociocultural context.[27]

Recent sociolinguistic research looks to the partial dependencies between properties of linguistic systems, on the one hand, and characteristics of the users, and circumstances of the use, on the other. The equation of one language - one culture is invalid, when levels of communication, social situations, dialect variations, and other indicators of heterogeneity are recognized. Research trends demonstrate, for instance, the various levels of communication, as in Hall's study of formal, informal, or technical forms of language use.[28] The "situation," as a crucial variable, is now admitted.[29] Speech forms are seen to vary by class and social experience, producing distinctive linguistic codes, as in Bernstein's analysis of restricted and elaborated codes.[30] Talk, as socially organized encounters, is analyzed as meanings-in-use.[31]

"Residual" or "deep" rules, which subtely govern social conduct, are investigated by ethnomethodology, a recent perspective in sociology. "Fringe

meanings" of words are connoted by a variety of indicators: vocabulary, syntax, phonetic variations, tone of the speaker and other linguistic or verbal clues, as well as dress, social status, biography, gesture, posture, and other paralinguistic symbols. These combine to communicate the intent of the speaker, and not merely the verbal content.[32]

Language, in this context, becomes a methodological strategy to explore linkages between what is said and the nature of the social scene. The God's Truth School, which holds that the semantic structure is the key to culture and social organization, makes little sense to investigators operating in a differentiated semantic domain. Linguistic relativity receives strong support in this research, but the sources of the variation are seen in the social order, rather than in the language per se. The most significant contribution, however, is the eradication of the formal distinction between language (la langue) and speech (la parole). Instead of the analytically distinct entities articulated by De Saussure and others, formal properties and meanings-in-use are seen as a single entity. This conjoining of formerly separate spheres may, yet, have its most profound impact on creating a science of man that is based on language and the rules of thought.

Language and Social Structure - Toward a Linguistically Based Social Science

Relativism seems a less viable position today. A counter-trend is emerging under the impact of linguistic, psychological, and comparative studies that aim at establishing a set of general principles and interrelated laws that underlie all organized behavior. Here, I can only be suggestive.

Levi-Strauss, a French social anthropologist, is undoubtedly the leading proponent of the position that social things are of the same order as mental

regularities. In applying the rules of logic to the analysis of social forms, Levi-Strauss analyses social systems in terms of linguistic systems, "built by the mind on the level of unconscious thought." Even as structural linguistics orders the vast diversity of sounds and meanings, social scientists should dissect the logical operations that underly social principles of order. Such principles, he assumed are finite and universal, but capable of generating an infinite number of possible specific orderings. The social scientist, in this formulation, should concentrate on forms, not content, for understanding basic social laws.[33] The theoretical work of Piaget, Chomsky, and Greenberg also reflect the effort to develop universalistic statements regarding the nature of man.[34]

Conclusions

My own view of this very promising trend is that American social scientists will continue to lag behind European formulations in erecting a linguistically-based social science. The strong commitment to a "middle range" theoretical position which can only generate limited and probabilistic propositions will undoubtedly hinder this more rationalistic, and wholistic approach. There is no doubt, however, that American sociology, social psychology, and anthropology will continue to modify their conceptual tools, in order to account more adequately for the role of language in an understanding of the construction of social order. The Sapir-Whorf legacy may be only now coming into its own.

FOOTNOTES

1. I am indebted to Bo Anderson, Professor of Sociology, Michigan State University for his helpful discussions of this paper. Bernard N. Meltzer, Professor of Sociology, Central Michigan University, also provided invaluable editorial assistance.

2. The earliest formulation of this cognition-language bond and which predated the work of Whorf is found in L. Wittgenstein, Tractatus Logico-Philosophicus, English translation by D.F. Pears and B.F. McGuiness. London: Routledge and Kegan Paul, (1961). The anthropologist, Edward Sapir, early made the theoretical link between culture, language, and behavior that set the theoretical problem for later social scientists. (See E. Sapir, Culture, Language and Personality, Edited by D.G. Mandelbaum. Berkeley: University of California Press, (1964); and Language. New York: Harcourt and Brace, (1921)). Whorf, however, while working within the Sapir paradigm, extended the conceptual work into actual field observations. (See Benjamin L. Whorf, Language, Thought and Reality. Edited by John B. Carroll. Cambridge, Massachusetts: M.I.T. Press, (1956)).

   Some recommended works dealing with the Sapir-Whorf hypothesis include: Ian D. Currie, "The Sapir-Whorf Hypothesis: A Problem in the Sociology of Knowledge." In J.E. Curtis and John W. Petras, (ed.), Introduction to the Sociology of Knowledge. New York: Frederick A. Praeger, Inc., 1970; Susan Ervin, "Language and Thought." In Sol Tax, Horizons in Anthropology. Chicago: Aldine Publishing Company, (1964); and Josua Fishman, "A Systematization of the Whorfian Hypothesis." Behavioral Science: 5 (1960), pp.323-339.

3. Sapir, op. cit., 1964, p. 162.

4. This is the position taken by Wittgenstein. This assumption is also very close to the pragmatic position of G.H. Mead, Baldwin, Dewey, Cooley and others of the "Chicago School," who insisted on the priority of the social for development of the mind.

5. Fishman, op. cit.

6. Dell Hymes, (ed.), Language in Culture and Sociology. New York: Harper & Row, (1964), esp. p. 117.

7. Dorothy Lee, "Being and Value in a Primitive Culture." The Journal of Philosophy: 46 (1949), pp. 401-415.

8. Clyde Kluckhohn and Dorothea Leighton, "By Their Speech Shall Ye Know Them." J. Jennings and E.A. Adamson, (eds.). Readings in Anthropology. New York: McGraw Hill Book Company, (1966), pp. 378-384.

9. Harry Hoijer, "The Relation of Language to Culture." In A.L. Kroeber, (ed.), Anthropology Today. Chicago: The University of Chicago Press, (1953), pp. 554-573.

10. Clyde Kluckhohn and Dorothea Leighton. The Navaho. Cambridge, Massachusetts: Harvard University Press, (1946).

11. See, for example, J.O. Bright, and W. Bright, "Semantic Structures in Northwestern California and the Sapir-Whorf Hypothesis." American Anthropologist 67 (1965), pp. 249-258.

12. Currie, op. cit.

13. Eric H. Lenneberg, "Cognition in Ethnolinguistics," Language 29 (1953) pp. 463-471.

14. M. Mauss, "On Language and Primitive Forms of Classification." In Hymes, (ed.), op. cit. pp. 125-127.

15. Ward H. Goodenough. "Language and Property in Truk: Some Methodological Considerations." In Hymes, (ed.), op. cit., pp.185-188.

16. This is discussed in Currie, op. cit.

17. Hymes, op. cit., p. 117.

18. A general critique of this work is found in Harry Hoijer, (ed.). Language in Culture. Memoir No. 79. American Anthropology Association. Chicago: University of Chicago Press, (1954).

19. Representative work in this area include: Roger Brown and Eric Lenneberg, "A Study in Language and Cognition." In Sol Saporta (ed.), Psycholinguistics. New York: Holt, Rinehart and Winston, (1961), pp. 480-492; John B. Carroll and Joseph B. Casagrande, "The Function of Language Classifications in Behavior." In E. Maccoby, T.M. Newcomb, and E.L. Hartley, (eds.), Readings in Social Psychology. New York: Henry Holt and Company, (1958), pp. 18-31; Marshall H. Segall, Donald T. Campbell, Melville J. Herskovits, The Influence of Culture on Visual Perception. New York: The Bobbs-Merrill Company, Inc., (1966).

20. Brown and Lenneberg, in Saporta, (ed.), op. cit., p. 92.

21. Carroll and Casagrande in Maccoby, et. al. (eds.), pp. 18-31.

22. Seegal, Campbell, and Herskovits, op. cit.

23. See, for example: William C. Sturtevant, "Studies in Ethnoscience." American Anthropologist: 66 (1964), pp. 99-131, and Stephen Tyler, (ed.), Cognitive Anthropology. New York: Holt, Rinehart, and Winston (1970).

24. Charles O. Frake, "The Diagnosis of Disease Among the Subanun of Mindanao." In Hymes, (ed.) op. cit., p. 193.

25. Madeleine Mathiot, "Noun Classes and Folk Taxonomy in Papago." In Hymes, (ed.), op. cit., pp. 154-161.

26. Robbins Burling, "Cognition and Componential Analysis: God's Truth or Hocus-Pocus?" American Anthropologist: 66 (1964), pp. 20-28.

27. See Hymes, op. cit., p. xxvii and John B. Carroll, The Study of Language. Cambridge: Harvard University Press (1953).

28. Edward T. Hall, "Adumbration as a Feature of Intercultural Communication." American Anthropologist: 66 (1964).

29. Erving Goffman, "The Neglected Situation." American Anthropologist: 66 (1964).

30. Basil Bernstein, "Elaborated and Restricted Codes: Their Social Origins and Consequences." American Anthropologist: 66 (1964).

31. Charles O. Frake, "How To Ask For a Drink in Sabanun." American Anthropologist: 66 (1964). The above four citations (footnotes 28-31) are all taken from the same volume of American Anthropologist: The Ethnography of Communication: 66 (1964). For other representative work in Sociolinguistics, see Joshua A. Fishman, (ed.), Readings in the Sociology of Language. The Hague: Mouton (1968).

32. See Peter K. Manning, "Language, Meaning and Action." To appear in Jack D. Douglas, Introduction to Sociology: Situations and Structures. New York: The Free Press, 1971.

33. Claude Levi-Strauss, Structural Anthropology. Translated by C. Jacobson and B.G. Schoeff. Garden City, N.Y.: Anchor Books, 1967.

34. See Roger Brown for an overview of Piaget's thought, especially Chapter 5. R. Brown, Social Psychology. New York: The Free Press (1965). N. Chomsky, Syntactic Structures. The Hague, Netherlands: Mouton, (1957). J.H. Greenberg, (ed.), Universals of Language. Cambridge, Mass.: Harvard University Press, 1963.